Defense Acquisition University

Urgent and Emergent Operational Needs and Their Fulfillment

Presented by

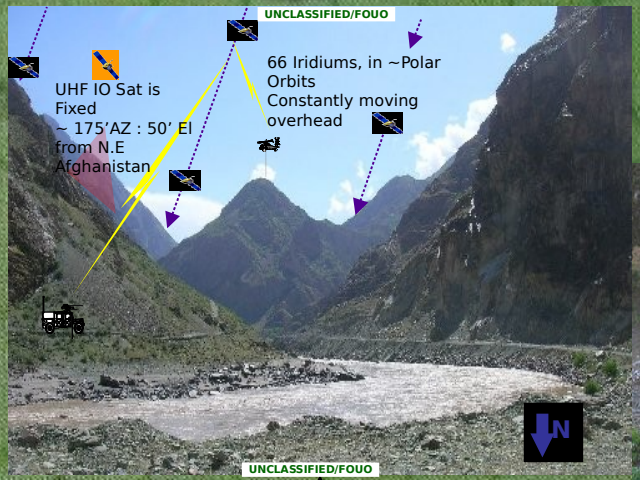
JS / J8, Joint Capabilities Division

and

OSD - Joint Rapid Acquisition Cell

Jul 2015

Operation RED WINGS
CC-0278, Netted Iridium



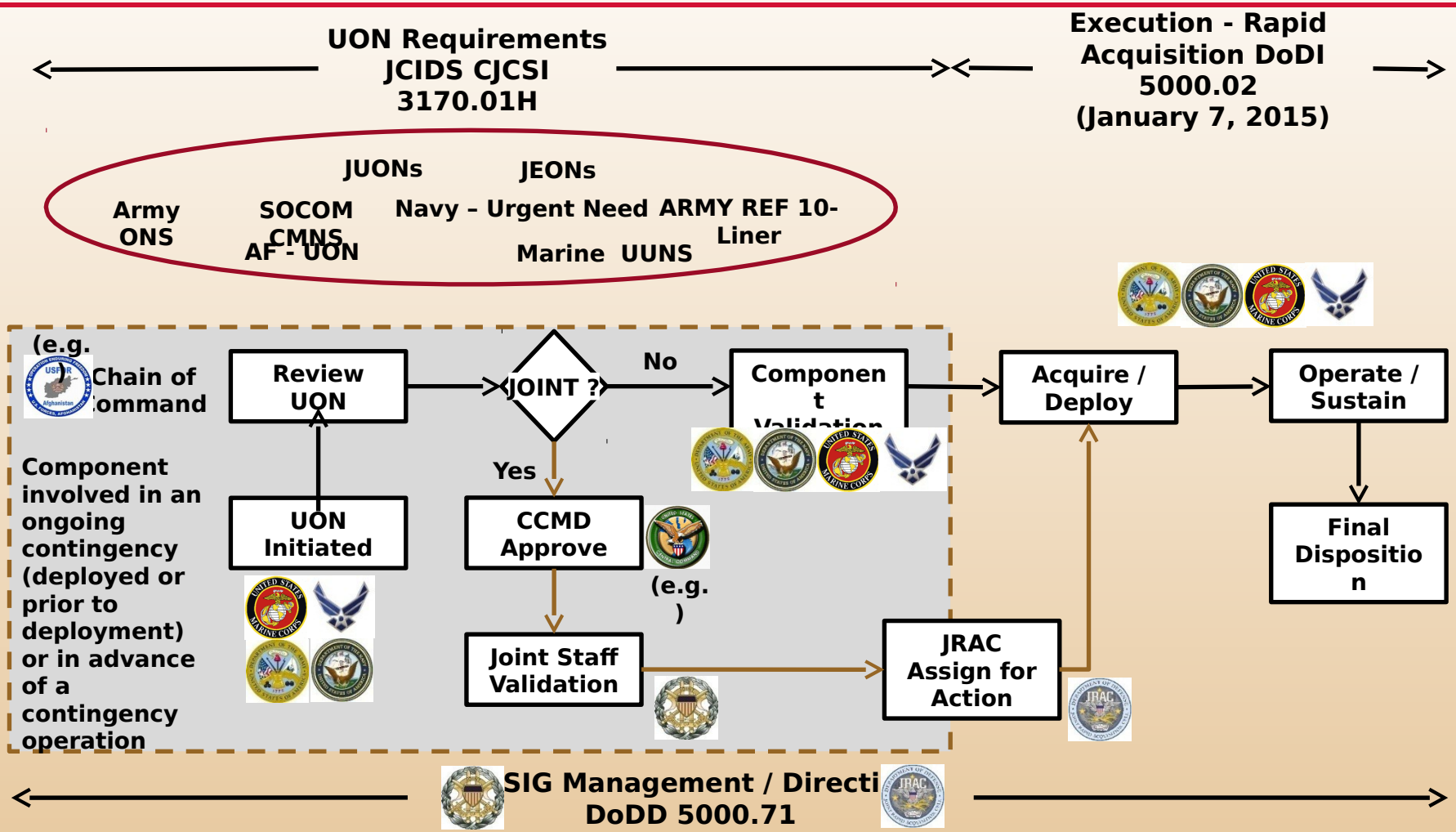
- Requirement: Theater communications for disadvantaged users
- Challenging terrain limits satellite communications
- MCWL initiated work on "netted iridium" capability
- Matching seedling technology development efforts to relevant operational problems is essential

Lesson Objectives

Describe Urgent and Emergent Operational Need situations, procedures, and lessons learned

- Recognize situations that call for a Rapid Response
- List the differences between urgent/emergent requirements and the deliberate “lane” of JCIDS
- Describe actions to transition from an urgent/ emergent requirement to an enduring capability requirement
- Discuss the funding, process and oversight of Rapid Acquisition

UON High Level Process



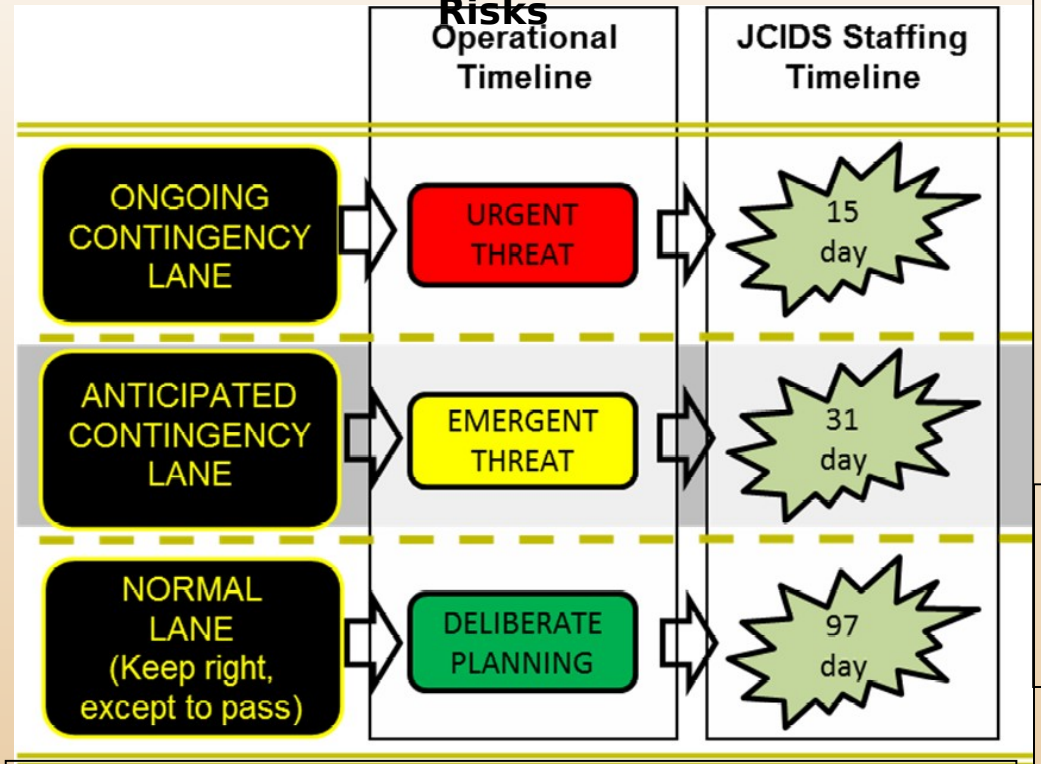
Many steps are done in parallel

Urgent Operational Needs

- **Urgent Operational Need (UON)** – capability requirements **identified by a DOD Component** as impacting an **ongoing or anticipated contingency operation**. If left unfulfilled, UONs result in capability gaps **potentially resulting in loss of life or critical mission failure**. DoD Components, in their own terminology, may use a different name for a UON.
  - **Joint Urgent Operational Need (JUON)** – UONs that are **identified by a Combatant Command** as inherently joint and impacting an **ongoing contingency operation**.
  - **Joint Emergent Operational Need (JEON)** – UONs that are **identified by a Combatant Command** as inherently joint and impacting an **anticipated or pending contingency operation.**
- **Requirements Managers and Program Managers must work together to ensure success**

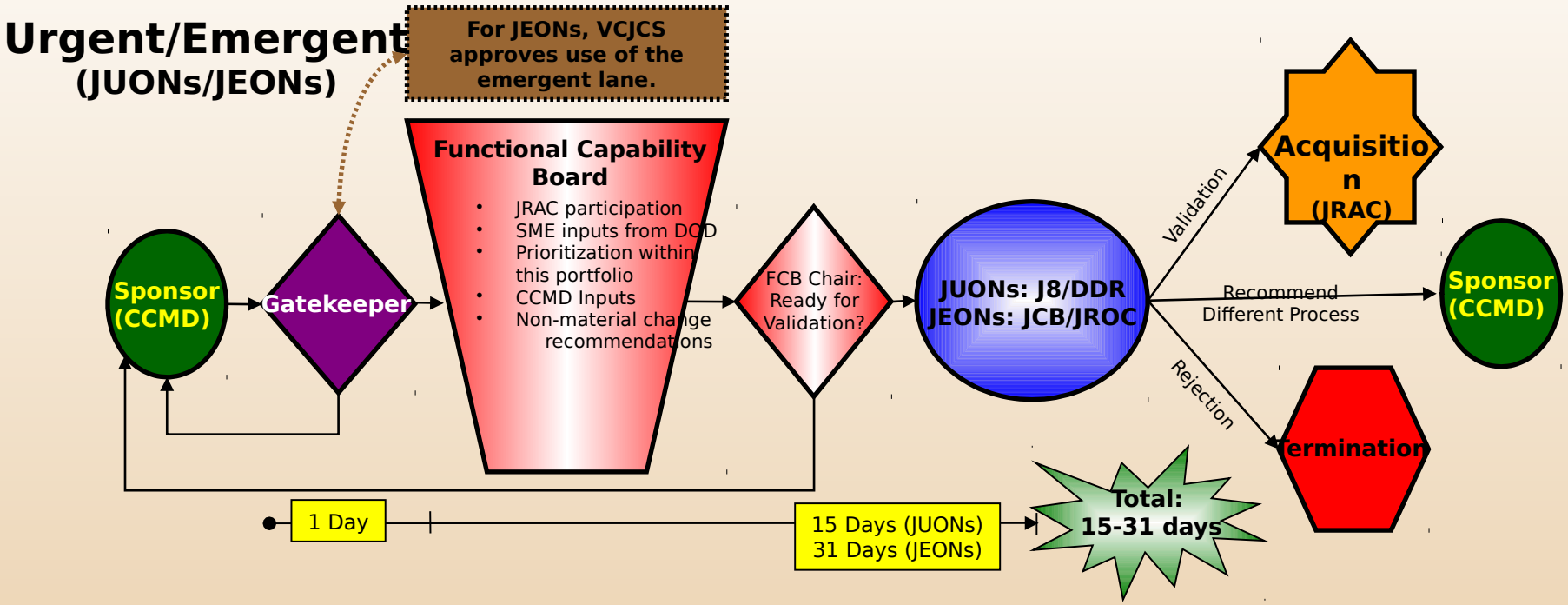
CJCSI 3170.01H Three JCIDS Process "Lanes"

Established Three Lanes to Requirements Development to Respond to Capability Gaps within Acceptable Timeframes and Risks



- **Urgent Requirements**
  - Combatant Command (CCMD) (JUON) or Other DoD Component Driven
  - Urgent and compelling to prevent loss of life and/or mission failure during current operations
  - Joint Staff J8 Deputy Director for Requirements (DDR) validates Joint Needs; DoD Components assess/validate other urgent needs
- **Emergent Requirements**
  - CCMD Driven
  - Supports accelerated acquisition of capabilities needed for an anticipated or pending contingency operation
  - VCJCS verifies, JCB or JROC validates
- **Deliberate Requirements**
  - Service, CCMD, or Agency Driven
  - Traditional route for capabilities that require significant tech

Urgent/Emergent Staffing



- **Time is of the essence: 15 days staffing for JUONs, 31 days for JEONs**
- **Gatekeeper reviews CCMD submission**
- **Functional Capabilities Boards conduct triage in conjunction with the Joint Rapid Acquisition Cell (JRAC) from OSD (AT&L)**
- **Validation authority decides: proceed to solution, redirect, or reject**
- **Knowledge Management / Decision Support (KM/DS) System**
  - **JUON/JEON – Monitor All Tab**

JUON/JEON Format

1. Administrative Data:
   a. Title: (Unclassified version);
   b. Submitted by: (e.g. CENTCOM);
   c. Authorized by: CCMD Commander, Deputy/Vice, or Chief of Staff;
   d. Primary and secondary POCs: RMCT trained POCs;
   e. Date submitted: Timing is essential
2. Operational Context and Threat Analysis
   Describe the nature of the urgency and operational impact – loss of life / critical mission failure
3. Required Capability
   Describe the capability required – not a specific solution – as well as duration of need
4. Flexibility
   Is a partial solution on time acceptable?
5. Potential Non-Materiel Solutions
   Were non-materiel options considered and instituted?
6. Potential Materiel Solutions
   Identify/discuss any known viable capability solutions
7. Required Quantities
   Identify quantity and distribution requirements
8. Constraints
   Identify logistics, maintenance, training, manpower issues that could inhibit closing the gap

- Reference: JCIDS Manual, 12 Feb 2015, p D-86

JUONs/JEONs in Media

- Duty: Memoirs of a Secretary at War, Robert Gates, Secretary of Defense

- Running the Pentagon Right: How to Get the Troops What They Need, Dr. Ash Carter, Deputy Secretary of Defense
  - http://www.foreignaffairs.com/articles/140346/ashton-b-carter/running-the-pentagon-right

- MV Cape Ray Deploys on Syrian Chemical Weapons Disposal Mission
  - http://news.usni.org/2014/01/28/mv-cape-ray-deploys-syrian-chemical-weapons-disposal-mission

- US Transcom Unveils Ebola Isolation Units for Cargo Planes
  - http://www.military.com/daily-news/2015/01/23/us-transcom-unveils-ebola-isolation-units-for-cargo-planes.html

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Rapid Acquisition and Actions to Fulfill Urgent Operational Needs

When wars end, leaders are often eager to move on to the next challenge. That is why it is crucial to make permanent the institutional innovations resulting from the hard-earned lessons of Afghanistan and Iraq, while the experiences are still fresh. Too many lives were lost in the early years of those wars because the Pentagon failed to keep up with a changing battlefield. Never again should it make the same mistake. Ashton Carter, *Foreign Affairs,* January 2014

What does it take to "field" a capability quickly?

- **Know what it is that you're trying to field**
  - "Requirements" – but, may be incomplete as submitted by requester
- **Know how it's going to be used and who's going to use it**
  - DOTMLPF, force management (e.g., boots on the ground) considerations, contractor operated, contractor owned
- **Have mature technology in the bank, rapid integration, rapid development, focused and rapid science & technology**
  - Non-material solutions. Interim solutions. Multiple simultaneous approaches
- **Have a responsive and accountable "acquisition" structure**
  - Analysis, program management, contracts, industrial base, supply chain, logistics, etc… **"Rapid Fielding of Capabilities" policy issued in Encl. 13 to DoDI 5000.02, *Operation of the Defense Acquisition System*, January 7, 2015.**
- **Have access to money to execute when you need it**
  - "Budgets" – current execution year, future year, color
- **Training**

A sense of urgency and clear

Transition to Normal Acquisition System

- **Who decides if a solution to an Urgent Operational Need should enter the formal acquisition process?**
  - ACAT I – Defense Acquisition Executive (DAE) makes the decision
  - ACAT II or below – Component Acquisition Executive (CAE) / Service Acquisition Executive (SAE), or component established process makes the decision (in accordance with Enclosure 13, DoDI 5000.02, section 4.e.(5))
- **Funding for additional quantities and sustainment are generally a Service responsibility as part of the normal budgeting process.**
- **Within one year of entering operation and sustainment phase a "disposition analysis" is required for all UONs – Terminate, Sustain, or Transition to normal acquisition system (program of record (POR)).**
  - **Disposition Decision** must be documented (acquisition decision memorandum (ADM)) for all UONs
  - **Disposition Decision ADM** should specify point of entry into the Defense Acquisition System, required acquisition and JCIDs

Inherent Risks

- **Solution Failure** – rapid fielding may result in a solution that does not perform as planned
- **Short-term success** may not meet longer-term needs
- **Inadequate sustainment planning:**
  - May result in requirements for multiple upgrades or for more costly improvements
  - Creates issues if we must transition to a new sustainer other than the initial provider - Steep learning curve
- **Transition to Normal Acquisition Program** may require backward development of required DoDI 5000.02 and JCIDS documentation.

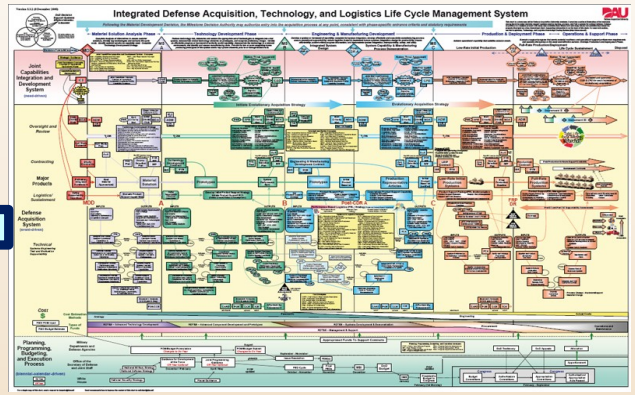
DoD Directive 5000.71 "Rapid Fulfillment of Combatant Commander Urgent Operational Needs"

- **Deputy Secretary of Defense issued Directive August 24, 2012.**
- **Establishes**
  - **Warfighter Senior Integration Group (SIG**) to lead and facilitate agile and rapid response to Combatant Commander (CCMD) UONs and to recognize, respond to, and mitigate the risk of operational surprise associated with ongoing or anticipated near-term contingency operations
  - **DoD's highest priority** to provide warfighters involved in conflict or preparing for imminent contingency operations with the capabilities urgently needed to overcome unforeseen threats, achieve mission success, and reduce risk of casualties
- **Solution must be capable of being fielded within 2 years of the validation of the urgent need**
  - Requirements, acquisition, and budgeting processes and decisions will be linked to support a timeline appropriate to the need
  - Actions to resolve UONs will be accomplished by using parallel, rather than sequential, processes. Communication of UONs to the acquisition community will not be unduly delayed to resolve information shortcomings that could be addressed by direct interaction between the requestor and the responsible acquisition organization
- **Assigns Responsibilities for implementation**
  - DoD Components will establish supporting policies and procedures, for the expeditious identification, submission, evaluation, validation, and resolution of

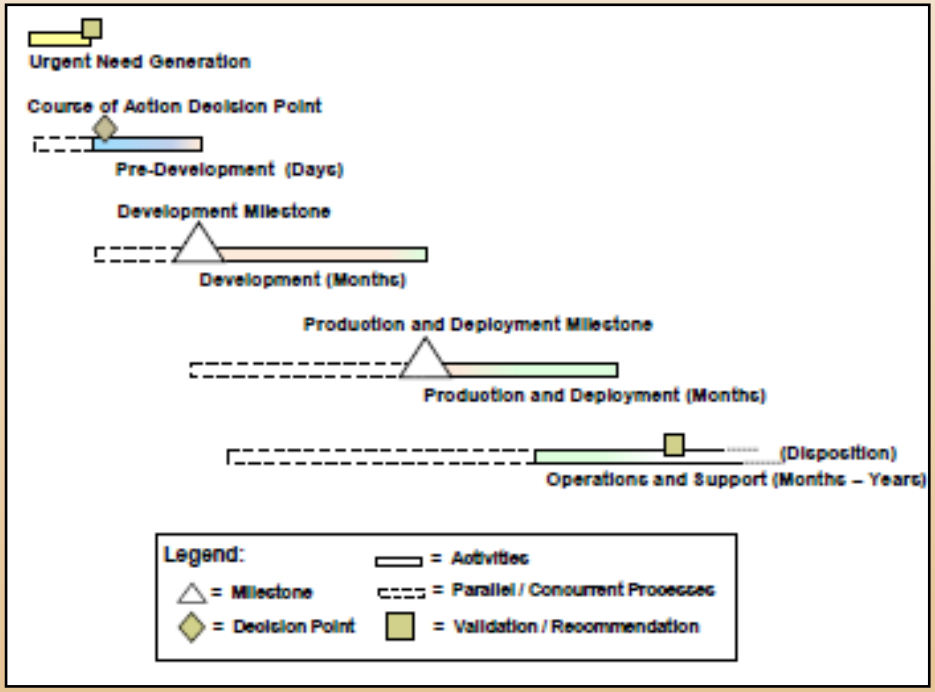
Warfighter SIG Responsibilities

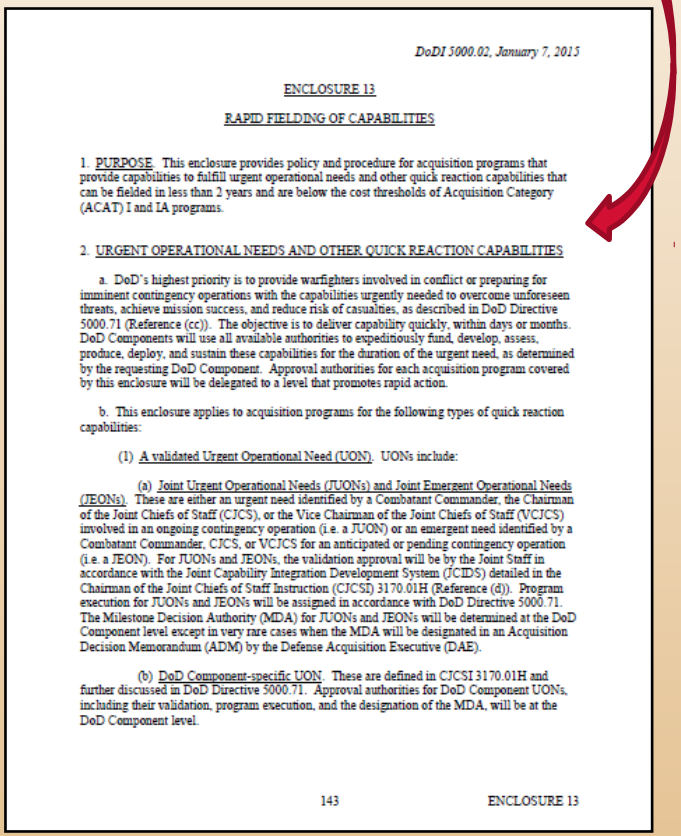
- **Lead and facilitate agile and rapid response to CCMD UONs**
- **Recognize, respond to, and mitigate the risk of operational surprise associated with ongoing or anticipated near-term contingency operation.**
- **Facilitates the resolution of other urgent warfighter issues**
- **Prioritize and direct actions to meet urgent requirements and to integrate department wide efforts to manage the institutional response to operational surprise.**
- **Overarching entity through which OSD's previously established urgent needs organizations and task forces and any future OSD level urgent needs task forces will report to the Secretary of Defense regarding the status of UON related actions**
- **NOTE: On May 8, 2014, Deputy Secretary of Defense Work delegated the responsibilities of the Deputy Secretary of Defense listed and described in Department of Defense Directive 5000.71, to the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)). This delegation includes the Principal Deputy USD(AT&L).**

Rapid Fielding of Capabilities



DoD's highest priority is to provide warfighters involved in conflict or preparing for imminent contingency operations with the capabilities urgently needed to overcome unforeseen threats, achieve mission success, and reduce risk of casualties, as described in DoD Directive 5000.71





DoDI 5000.02, January 7, 2015

ENCLOSURE 13

RAPID FIELDING OF CAPABILITIES

1. PURPOSE. This enclosure provides policy and procedure for acquisition programs that provide capabilities to fulfill urgent operational needs and other quick reaction capabilities that can be fielded in less than 2 years and are below the cost thresholds of Acquisition Category (ACAT) I and IA programs.

2. URGENT OPERATIONAL NEEDS AND OTHER QUICK REACTION CAPABILITIES

a. DoD's highest priority is to provide warfighters involved in conflict or preparing for imminent contingency operations with the capabilities urgently needed to overcome unforeseen threats, achieve mission success, and reduce risk of casualties, as described in DoD Directive 5000.71 (Reference (cc)). The objective is to deliver capability quickly, within days or months. DoD Components will use all available authorities to expeditiously fund, develop, assess, produce, deploy, and sustain these capabilities for the duration of the urgent need, as determined by the requesting DoD Component. Approval authorities for each acquisition program covered by this enclosure will be delegated to a level that promotes rapid action.

b. This enclosure applies to acquisition programs for the following types of quick reaction capabilities:

(1) A validated Urgent Operational Need (UON). UONs include:

(a) Joint Urgent Operational Needs (JUONs) and Joint Emergent Operational Needs (JEONs). These are either an urgent need identified by a Combatant Commander, the Chairman of the Joint Chiefs of Staff (CJCS), or the Vice Chairman of the Joint Chiefs of Staff (VCJCS) involved in an ongoing contingency operation (i.e. a JUON) or an emergent need identified by a Combatant Commander, CJCS, or VCJCS for an anticipated or pending contingency operation (i.e. a JEON). For JUONs and JEONs, the validation approval will be by the Joint Staff in accordance with the Joint Capability Integration Development System (JCIDS) detailed in the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01H (Reference (d)). Program execution for JUONs and JEONs will be assigned in accordance with DoD Directive 5000.71. The Milestone Decision Authority (MDA) for JUONs and JEONs will be determined at the DoD Component level except in very rare cases when the MDA will be designated in an Acquisition Decision Memorandum (ADM) by the Defense Acquisition Executive (DAE).

(b) DoD Component-specific UON. These are defined in CJCSI 3170.01H and further discussed in DoD Directive 5000.71. Approval authorities for DoD Component UONs, including their validation, program execution, and the designation of the MDA, will be at the DoD Component level.

143 ENCLOSURE 13

Contact Information

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    robert.e.loughran.mil@mail.smil.mil
  - Telephone: 703-695-4748
  - JCIDS on Intellipedia at https://intellipedia.intelink.gov/wiki/JCIDS
  - Knowledge Management and Decision Support System (KM/DS) on SIPRNET: https://jrockmdsbpm.js.smil.mil/bizflow/bizindex.jsp -- SIPR token required for registration & login

- Joint Rapid Acquisition Cell
  - Email Address: OSD.Pentagon.OUSD-ATL.List.JRAC@mail.mil for NIPRNET
    OSD.Pentagon.OUSD-ATL.mbx.JRAC@mail.smil.mil for SIPRNET
  - Telephone: 703-693-8227 / 703-695-8044
  - NIPRNET Site: https://intelshare.intelink.gov/sites/juontrack/default.aspx
    - Note: Need Intelink Passport user name and password; User name and password can be requested through: https://passport.intelink.gov/passport/Welcome
  - SIPRNET IntelShare Site: https://intelshare.intelink.sgov.gov/sites/juon/default.aspx
    - Note: Need Intelink Passport user name and password; User name and password can be requested through: https://passport.csp.sgov.gov/passport/Welcome

Questions

Backup Slides

JUON Section Descriptions

- **Title:** (Unclassified version)
- **CCMD Submitted by**: (e.g., CENTCOM)
- **Date** submitted by the CCMD
- **CONOPS Summary**. Provide a CONOPS for which the capabilities requested in the JUON/JEON contribute, including information regarding the coalition environment within which the capability solution will need to operate.
- **Required Capability**: Describe in detail the nature of the urgency and the operational impact, if not immediately resolved, in terms of critical mission failure or loss of life. Identify where the operational deficiency exists. Describe what capabilities are required, and whether they support a discrete operation, must be sustained for an extended period of time, or must be sustained until the end of the conflict. What is the target, threat or operational deficiency? What cannot be done without new or improved equipment or materiel? Include threshold/objective performance requirements for any key attributes. This description must also specify the latest acceptable date to address the capability requirements and capability gaps.

JUON Section Descriptions (cont)

- **Flexibility.** In the event of technological or other challenges, indicate whether receiving a partial solution on schedule is preferred to a delayed solution which satisfies a greater portion of the capability requirement. Estimate acceptable percentages of reduced performance and/or acceptable delay timeframes.
- **Mission and Threat Analysis**: Describe the mission deficiency or capability gap. Indicate the initial operational capability requirement, desired date and any impacts to safety, survivability, personnel, training, logistics, communications, etc.
- **Potential Non-Materiel Solutions**: Describe any non-materiel options and alternatives that were considered. If applicable, discuss any market survey or similar related information developed by document Sponsor or during the validation process. If market research details are available, provide along with the JUON or JEON to facilitate reuse during rapid acquisition activities.
- **Potential Materiel Solutions**: If known, identify and discuss viable solutions – from US or Allied/Partner nation sources – that could improve operational capabilities or system performance.

JUON Section Descriptions (cont)

- **Required Quantities**. For viable solutions, identify quantities required and distribution among applicable DoD Components. Include expected quantities required for spares and/or training activities.
- **Constraints:** Identify any known constraints that could inhibit satisfying the need -- such as arms control treaties, logistics support, transportation, manpower, training or non-military barriers.
- **Primary and secondary POCs** for the document Sponsor: Include name, title/rank, phone, and both NIPRNET and SIPRNET email addresses. POCs must have completed the appropriate level of RMCT in accordance with Enclosure H.
- **Authorized by**: Release authority's name, rank and title. New JUONs and JEONs, and modifications to the capability requirements in previously validated JUONs and JEONs, must be endorsed by the CCMD Commander, Deputy Commander, or Chief of Staff. Administrative modifications to previously validated JUONs or JEONs may be endorsed by the CCMD J8.

Military Service Rapid Response Procedures

- **Army: Operational Needs Statement (ONS).** Initiated thru operational commander's chain-of-command, endorsed by 06 or higher, submitted via SIPRNET to HQDA (DCS G-3/5/7) (AR 71-9)
- **Navy & Marine Corps: Urgent Need Process (UNP) / Rapid Deployment Capability (RDC) / Rapid Development and Deployment (RDD).** Initiated via Service chain-of-command. Certified by Naval Component Commander or Marine Corps component commander of supported COCOM. DON UNP encompasses Navy urgent operational need (UON) and Marine Corps urgent universal need statement (UUNS), and processes joint urgent operational needs (JUONs) that are assigned to the Department of the Navy. (SECNAVINST 5000.2E).
- **Air Force: Urgent Operational Need (UON)** from warfighting commander to lead command and HQAF. Validated by AFROC (AFI 10-601) .

U.S. Special Operations Command Rapid Response Process

- **USSOCOM Combat Mission Need Statement (C-MNS)** supports urgent new or existing materiel needs
  - Operational unit prepares the C-MNS
  - C-MNS endorsed by Theater Special Operations Command (TSOC) Commander and USSOCOM component
  - HQ USSCOM forms rapid response team to rapidly identify, validate, approve and field a solution.
  - Normally fields new or existing materiel within 180 days of C-MNS approval.

Additional Definitions

- **Validation** - The review and approval of capability requirement documents by a designated validation authority. The JROC is the ultimate validation authority for capability requirements unless otherwise delegated to a subordinate board or to a designated validation authority in a Service, Combatant Command, or other DOD Component.

From CJCSI 3170.01H

Contingency Operation Defined

Title 10 United States Code (USC) 100 a (13) The term “contingency operation” means a military operation that—

(A) is designated by the Secretary of Defense as an operation in which members of the armed forces are or may become involved in military actions, operations, or hostilities against an enemy of the United States or against an opposing military force; or

(B) results in the call or order to, or retention on, active duty of members of the uniformed services under section 688, 12301 (a), 12302, 12304, 12305, or 12406 of this title, chapter 15 of this title, section 712 of title 14, or any other provision of law during a war or during a national emergency declared by the President or Congress.

Contingency Operation Defined (cont.)

10 USC § 688 - Retired members: authority to order to active duty

10 USC 12301 (a) In time of war or of national emergency declared by Congress, or when otherwise authorized by law, an authority designated by the Secretary concerned may, without the consent of the persons affected, order any unit, and any member not assigned to a unit organized to serve as a unit, of a reserve component under the jurisdiction of that Secretary to active duty for the duration of the war or emergency and for six months thereafter.

10 USC 12302 (a) In time of national emergency declared by the President after January 1, 1953, or when otherwise authorized by law, an authority designated by the Secretary concerned may, without the consent of the persons concerned, order any unit, and any member not assigned to a unit organized to serve as a unit, in the Ready Reserve under the jurisdiction of that Secretary to active duty for not more than 24 consecutive months.

10 USC § 12304 - Selected Reserve and certain Individual Ready Reserve members; order to active duty other than during war or national emergency. Notwithstanding the provisions of section 12302 (a) or any other provision of law, when the President determines that it is necessary to augment the active forces for any operational mission or that it is necessary to provide assistance referred to in subsection (b), he may authorize the Secretary of Defense and the Secretary of Homeland Security with respect to the Coast Guard when it is not operating as a service in the Navy, without the consent of the members concerned, to order any unit, and any member not assigned to a unit organized to serve as a unit of the Selected Reserve (as defined in section 10143 (a) of this title), or any member in the Individual Ready Reserve mobilization category and designated as essential under regulations prescribed by the Secretary concerned, under their respective jurisdictions, to active duty for not more than 365 days

10 USC § 12305 - Authority of President to suspend certain laws relating to promotion, retirement, and separation. Notwithstanding any other provision of law, during any period members of a reserve component are serving on active duty pursuant to an order to active duty under authority of section 12301, 12302, or 12304 of this title, the President may suspend any provision of law relating to promotion, retirement, or separation applicable to any member of the armed forces who the President determines is essential to the national security of the United States.

10 USC § 12406 - National Guard in Federal service: call. Whenever—

- (1) the United States, or any of the Commonwealths or possessions, is invaded or is in danger of invasion by a foreign nation;
- (2) there is a rebellion or danger of a rebellion against the authority of the Government of the United States; or
- (3) the President is unable with the regular forces to execute the laws of the United States;
- the President may call into Federal service members and units of the National Guard of any State in such numbers as he considers necessary to repel the invasion, suppress the rebellion, or execute those laws. Orders for these purposes shall be issued through the governors of the States or, in the case of the District of Columbia, through the commanding general of the National Guard of the District of Columbia

10 USC Chapter 15 – INSURRECTION

14 USC Section 712 – Active duty for emergency augmentation of regular forces by United States Coast Guard **(NEW)**

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DOTmLPF-P Change Recommendations

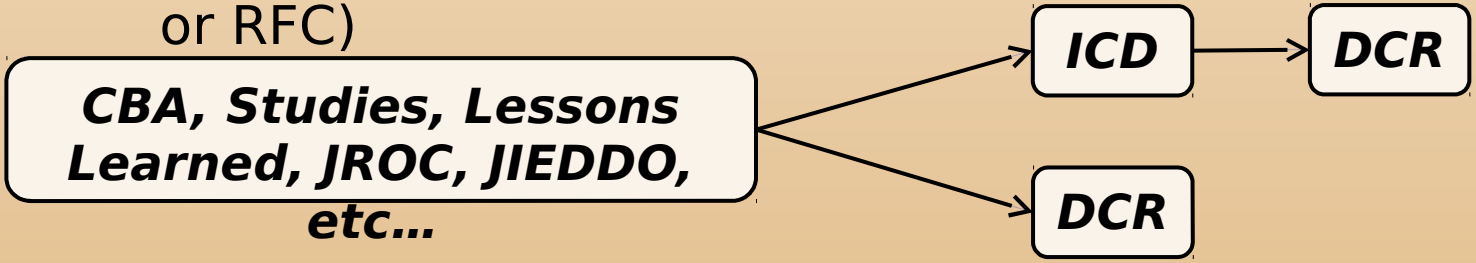
22 July 2015

Objectives

- Define Joint DCRs and their uses
- Describe the Joint DCR generation and staffing process
- Review Joint DCR content and format requirements
- Describe the Joint DCR implementation process
- Provide best practices and common pitfalls for DCR drafting, staffing and implementation

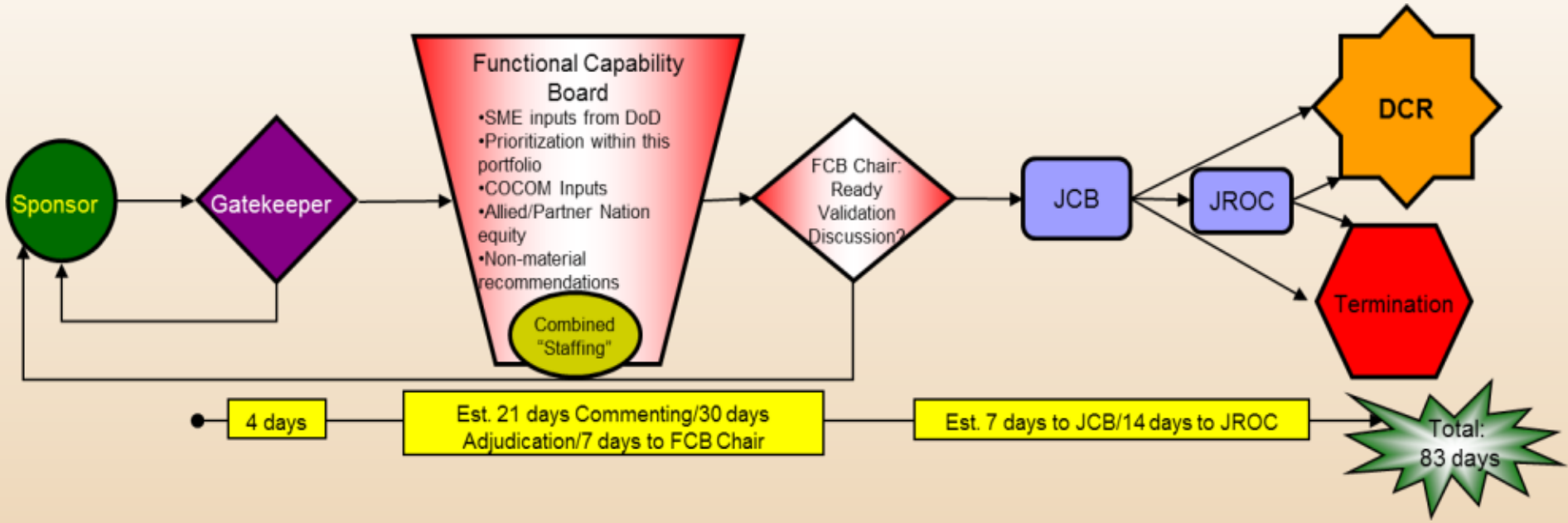
DOTmLPF-P Change Recommendations

- Joint DCRs document and validate non-materiel solutions as an alternative to, or complement of, materiel solutions (JCIDS Manual, 19Jan12)
- Required when:
  - A non-materiel solution addresses a capability gap
  - A materiel solution requires changes that impact DOTmLPF-P areas outside of the materiel program
  - A material solution exists in the joint force, but must be organic to the sponsor (i.e. cannot be satisfied by an RFF or RFC)



F.A.R.M. And TSOC DCR's

Staffing a DCR



- Gatekeeper will identify the appropriate FCB (and supporting FCB if necessary) (JCIDS Manual, 19Jan12)
- One of 4 JSDs will be assigned (change pending in JCIDS manual rewrite)
  - JROC Interest
  - JCB Interest
  - Joint Integration
  - Joint Information

Basic Parameters and Format

- Maximum Length: 30 Pages
- Structure
  - Executive Summary: 1 Page
  - (1) Purpose
  - (2) Background
  - (3) Description
  - (4) Analysis Process
  - (5) Joint DCR Findings and Proposed Implementation Plan
    - Recommendation
    - OPR
    - Implementation Timeframe
    - ROM Cost
  - (6) Constraints
  - (7) Policy
  - (8) Issues
  - (9) Recommendation Summary
  - Appendices

Basic Parameters and Format

- Maximum Length: 30 Pages, including Appendix A (NR-KPP)
- Structure
  - Executive Summary: 1 Page
  - (1) Purpose
  - (2) Background
  - (3) Description
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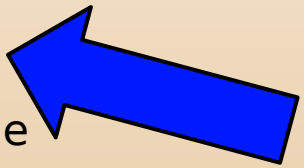


The critical section of a DCR

What makes a good DCR?

- Format and length conforms to JCIDS manual
- Recommendations:
  - Discrete, actionable tasks
  - Examples
    - Stronger: “Update Joint Pub 3-03 to reflect…”
    - Weaker: “Update joint doctrine to reflect…”
- OPR
  - Specific organization with oversight or authority over assigned tas
  - Examples
    - Stronger: “STRATCOM J7”
    - Weaker: “Combatant Commands”
- Implementation Timeframe
  - Specific, realistic yet minimized to maintain momentum
    - Stronger: “30 September 2013”
    - Weaker: “FY2013 plus 60 months”
- ROM Cost
  - Realistic, conservative
  - *Myth: DCRs don’t have a cost*

Section 5, Joint DCR Findings and Proposed Implementation Plan

Implementation of Validated DCRs

- Approved recommendations from DCR Section 5 become JROC Memo (JROCM) actions
- Overall lead designated in JROCM; responsible for leading completion of actions with OPRs
- Functional Capabilities Boards (FCBs) provide oversight of execution
- Extensions for action deadlines approved by Joint Staff J8 Deputy Director for Requirements via JROCM

Why DCRs Fail in Implementation

- Common Implementation Failures:
  - OPRs fail to meet suspense dates
  - Actions reported complete, yet intent is not met
- Causes:
  - Failure to properly review draft DCRs
  - Arbitrary or unrealistic action suspense dates
  - “Lead Organization” fails to lead
- Recommendations:
  - Sponsor is the Lead Organization
  - POCs for OPRs identified prior to validation and engaged in drafting process
  - Determine suspense dates by developing a POAM for each action
  - Lead Organization forms an implementation working group upon validation
  - Leverage all available resources to complete actions within suspense dates

DCR Help

- Joint Staff J8 Joint Capabilities Division: JCIDS Process Owners
  - JCIDS Gatekeeper: CDR J.R. Hill, 703-697-9082, jeremy.r.hill.mil@mail.smil.mil
  - DCR Lead: CDR Greg "Sluggo" Leland, 703-695-2702, gregory.j.leland.mil@mail.smil.mil
- Functional Process Owners (FPOs): Provide advice to sponsors during staffing of DCRs, oversee implementation of recommended changes

DOTmLPF-P Area	Functional Process Owner	POC
Joint Doctrine	Joint Staff/J-7	CDR Todd Glasser, 703-692-7255, todd.s.glasser.mil@mail.mil
Joint Organizations	Joint Staff/J-8	Col Frank Latt, (843) 228-7690/7509, frank.n.latt.mil@mail.mil
Joint Training	Joint Staff/J-7	Dan Abahazy: (703) 614-6641 / daniel.f.abahazy.civ@mail.mil
Joint Materiel	Joint Staff/J-8	Mr. Fred Gregory, 703-695-4745, frederick.d.gregory.civ@mail.smil.mil
Joint Leadership and Education	Joint Staff/J-7	Mr. Jack Roesner, 703-692-7270, john.j.roesner.civ@mail.smil.mil
Joint Personnel	Joint Staff/J-1	Mr. Andy Rivera, 703-571-9819, andres.rivera14.civ@mail.smil.mil
Joint Facilities	Joint Staff/J-4	LTCOL Tom Bongiovi, 703-697-4445, thomas.a.bongiovi.mil@mail.smil.mil
Joint Policy	Joint Staff/J-5	Mr. Jim Raycraft, 703-695-4752, james.w.raycraft2.civ@mail.smil.mil

- Functional Capabilities Boards

FCB	POC
Battlespace Awareness	Mr. Chris Hall, 703-571-0357, christopher.hall@js.smil.mil
C4/Cyber	Ms. Becky Gentry, 703-571-9885, rebecca.j.gentry.civ@mail.smil.mil
Force Application	Mr. Ben Vaught, 703-692-3842, jmaes.b.vaught.ctr@mail.smil.mil
Force Support	Mr. Joe Coleman, 703-692-3873, joe.t.coleman.ctr@mail.smil.mil
Logistics	Mr. Rick Gallagher, 703-571-9853, rick.m.gallagher.ctr@mail.smil.mil
Protection	Mr. Mike Shalak, 703-693-7116, michael.a.shalak.civ@mail.smil.mil

- KM/DS Help Desk: Mr. Mike Farmer, 703-692-3962, js.pentagon.j8.mbx.km-ds-helpdesk-mailbox@mail.smil.mil

Summary

- Joint DCRs document and validate non-materiel solutions as an alternative to, or complement of, materiel solutions
- Joint DCRs follow the standard JCIDS process for staffing (~83 days)
- 9 Sections (5 Sections for Alternate Format)
  - Maximum 30 pages plus 1 page Executive Summary
  - Critical Section: “Joint DCR Findings and Proposed Implementation Plan”
- Lead Organization coordinates implementation of validated Joint DCRs with FCB oversight
- Successful implementation is dependent on comprehensive staffing and a pro-active Lead Organization

Defense Acquisition University

RQM 310
Intelligence Support to Acquisition and Requirements Management

Lesson Objective

- **TLO (Overall Objective)**
  - Examine ways to build better partnerships between requirements, acquisition, and intelligence communities to better address changes in threats
- **ELOs (Sub-areas)**
  - Address changing threat picture during development
  - Engage the Intelligence Community early in the process

Take Aways …

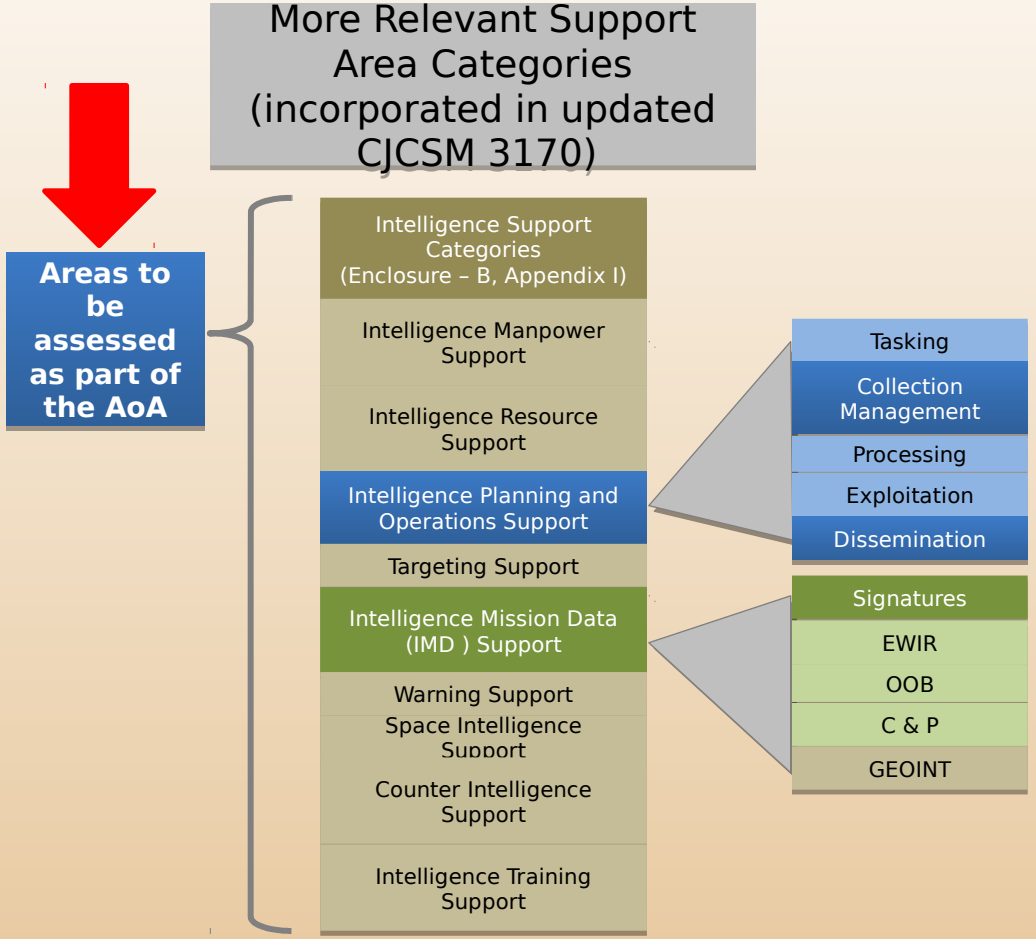
- Intelligence, Requirements, and Acquisition Communities
  - Greater community coordination; however, Acquisition DOES NOT take a queue from Intelligence
  - Importance of realizing, codifying intelligence requirements early in development process
  - Functional Requirements must codify intelligence support
  - Intelligence must be considered in all sections of JCIDS documents
  - Engage the Intelligence Community early

- Intelligence Requirements Certification Office (IRCO)
  - Insight into the intelligence certification process
  - IRCO is the organization responsible for intelligence certification

Intelligence Support Categories

Threat
- Incorporated *into* design
- Addresses operational environment – ***and*** –
- Must be considered during R&D
- Adds to program cost

Intelligence Support
- Products and support leveraged from external sources to support the capability in development
- Frequently not considered in program cost



Section 8 provides the Demand Signal …

Importance of Threat to Development

- **DIA coordination office – TLA-3**
- **Capabilities** are developed against the adversaries' capability
- **Threat(s)** can change during the development cycle
  - The enemy can develop new threats faster than we can develop new systems
  - Potential enemies access our media and exploit unprotected repositories of Defense related information
  - Potential adversaries have observed US capabilities in the field after more than a decade of hostilities
  - They know a great deal about the capabilities we employ and the major systems we are developing
- **Threat information** must be updated at CDD and CPD

Critical Intelligence Parameters (CIPs)

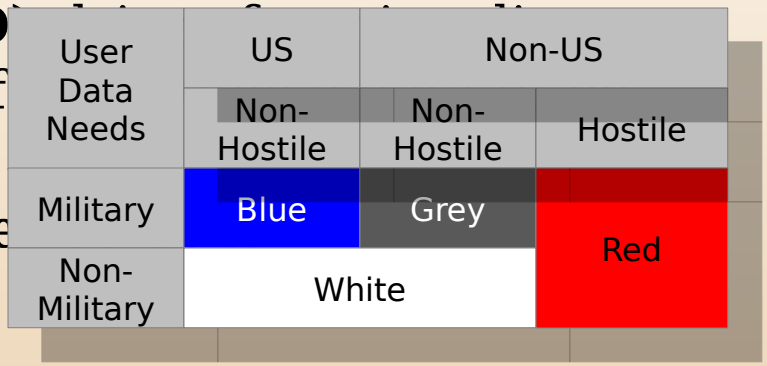
- **Definition:** CIPs are those key performance thresholds of foreign threat systems which, if exceeded, could compromise the mission effectiveness of the US system in development.
  - Identified in the System Threat Assessment Report (STAR); monitored by the IC; Breaches declared when applicable adversary threat advances observed
- **CIP Breach Process:**
  - Breach reviews use similar procedures to JROC/JCB tripwire reviews; intent is for Risk Mitigation Teams to address breach impacts on capability and associated programs
  - CIP Breach #5 briefed to Force Application (FA) WG, FA FCB
    - CIP Breach #5 did not present significant concern for sponsor or program
    - Review of the breach provided excellent opportunity to test and follow procedures
    - Mitigation Team participation included JS J8, DIA TLA-3, MSIC, NASIC, and JS J283
  - Incorporated throughout JCIDS Manual; OSD Directive-Type Memorandum (DTM) in coordination for incorporation in acquisition process

Counterintelligence (CI) Challenges

- **IRCO observations of CI requirements and supportability** in capability development
  - **Inconsistent and insufficient identification of CI support** needed to mitigate foreign threat vulnerabilities and provide program protection
    - **Lack of supporting threat assessments and plans** – Multi-Discipline CI Threat Assessment, Technology Transfer Risk Assessment, Supply Chain Threat Assessment, CI Support Plan – augment the Program Protection Plan (PPP)
    - **Insufficient Sponsor understanding of CI** support issues
    - **Supporting assessments and plans** are primarily acquisition requirements; however, **serve to inform CI support category requirements**
  - **Possible capacity issues** across the Intelligence Community (IC) to process threat assessments
  - Assessment complements the USD(I) and AT&L Joint Acquisition Protection Exploitation Cell (JAPEC) task to protect against loss of technical information
- **Sponsor / PM should initiate CI-related vulnerability assessments early in development**

Intelligence Mission Data (IMD)

- **DIA coordination office – TLA-4**
- **Sensor fusion** is a characteristic of advanced weapons systems
- **Platform Mission Data (MD**
  requires significant amount of
  effective
- **Advanced platform intellige**
  - Signatures
  - Order of Battle (OOB)
  - Geographical Intelligence (GEOINT)
  - Characteristics & Performance (C&P)
  - Electronic Warfare Integrated Reprograming (EWIR)
- **EWIR** components:
  - Foreign (“Red/Grey”) – Produced by the Service intelligence



Intelligence data requirements are increasing, production centers challenged to meet need – articulation of full requirements creates demand signal

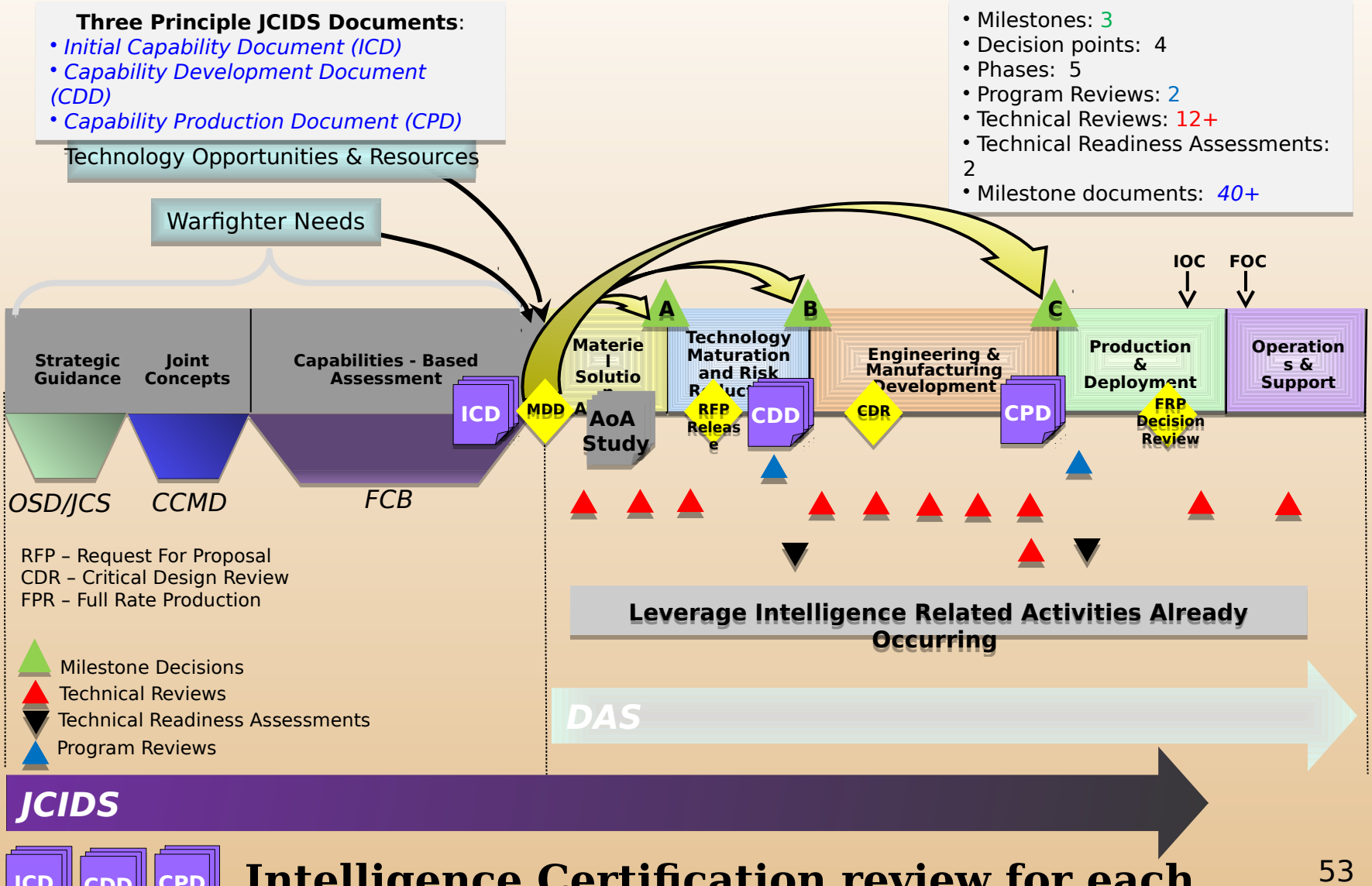
Intelligence Requirements Certification Office

- **Mission**
  - Evaluate and analyze intelligence support requirements for completeness, supportability and impact on Joint intelligence strategy, policy and architectural planning
  - Identify, as early as possible, all likely intelligence support requirements and shortfalls; ensure threat capability information is incorporated into program planning throughout the JCIDS and DAS processes
  - Roles and responsibilities identified in CJCSIs 5123.01
    - CJCSI 3312.01B incorporated into updates to CJCSI 5123.01, CJCSI 3170.01, and JCIDS Manual
- **Intelligence Certification Working Group (ICWG)** ensures all intelligence supportability issues for developing Joint capabilities are addressed across the IC and with Program Offices
  - ICWGs used to update membership on capability review issues, potential changes in certification process, or

Intelligence Certification

- **Certification** is a statement of adequacy and assesses whether the intelligence architecture and infrastructure will be available, suitable, and sufficient to support joint military requirements.
  - Certifies: (1) DIA or Service validation of threat information and references; and, (2) adequacy of requirements and supportability in nine Intelligence Support Categories
  - **Conditional Certification** requires sponsors provide additional information prior to next milestone to receive final certification
  - **Endorsement** provided in lieu of certification for service-only operated and funded capabilities
- **Granted** for programs with Joint Staffing Designator (JSD) of Joint Integration and above
  - ICD is certified for validated Threat alone
  - CDD and CPD are certified for Threat and Intelligence

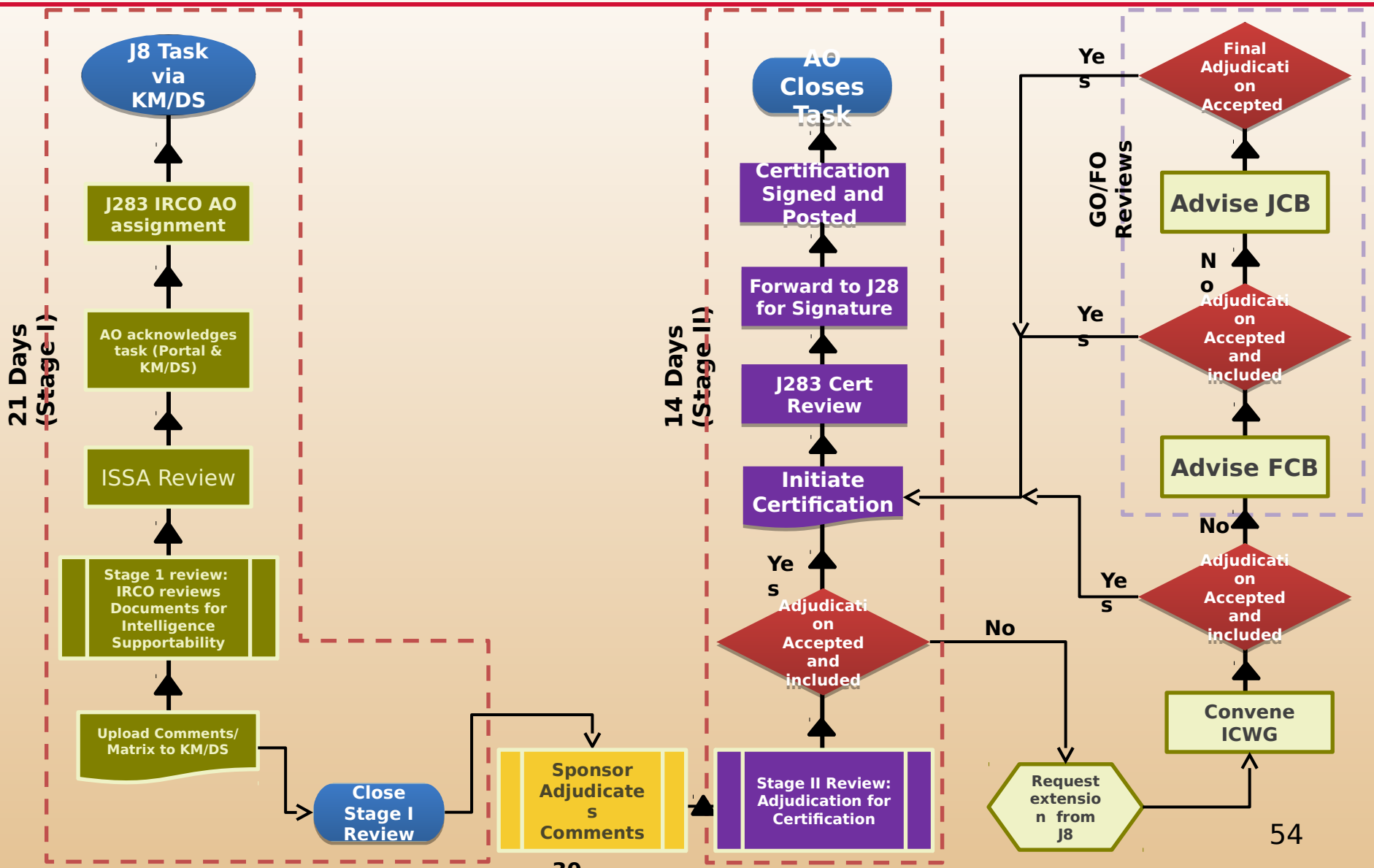
Timeline



ICD CDD CPD

Intelligence Certification review for each JCIDS document

IRCO Certification Flow Chart



Identifying the Problem

- **Any changes to requirements post-CDD approval / Milestone B will have significant impact on cost and schedule – natural reluctance to propose changes**
- **Budgetary pressures and statutory requirements to develop to threshold inhibit the Services and Program Managers from either making changes or expending additional funds to build in flexibility**
  - Prudent design vs. "Gold-plating" issues
- **Nunn-McCurdy Implications**
  - True excessive cost growth versus "fact-of-life" changes

Other Considerations

- **CIP Breach risk mitigation processes – Service and Joint leads**
- **Program and Capability Portfolios must both be considered in mitigation options**
- **When should we accept a partial solution due to the speed of change of the threat?**

Solutions

- **Requirements that allow for more flexibility to respond to dynamic threats**
- **Better solutions demand strong teaming with Intel, Requirements, and Acquisition**
- **Earlier engagement with the Intelligence Community at key check points prior to decision points**
- **Build partnerships/relationships within the Service, OSD and beyond to ensure everyone understands why costs, schedule, and requirements might change**
  - Early analysis
  - Post-ICD input to the AoA
  - CDD formulation of final KPPs and increments
  - Development of Critical Intelligence Parameters

"Marinating Intelligence Support In" rather than ***"Brushing It On"***

Points of Contact & References

- **Joint Staff J283 (Intelligence Requirements Certification Office)**
  - Mr. John Kittle, IRCO Chief, (757) 836-7030, john.i.kittle.civ@mail.mil
  - Mr. Mike Reynolds, (757) 836-7128, michael.l.reynolds14.civ@mail.mil
- **DIA Functional Capabilities Board (FCB) Support Office**
  - Mr. Richard Castrop, DIA/DO, Battlespace Awareness/Future Capabilities, (202) 231-4029, richard.castrop@dodiis.mil
- **DIA TLA-3 (Technical & Long-range Assessments - Threat)**
  - Mr. Jeff Vales, Chief, (434) 956-2170, jeffrey.vales@dodiis.mil
  - Mr. Christopher Boggs, (434) 956-2367, christopher.boggs@dodiis.mil
- **DIA TLA-4 (Technical & Long-range Assessments - IMD)**
  - Mr. Don Bellah, Chief, (434) 956-2369, donald.bellah@dodiis.mil
- **References:**
  - DoDI 5000.02, *Operation of the Defense Acquisition System*
  - DoDI O-5240.24, *Counterintelligence (CI) Activities Supporting Research, Development, and Acquisition (RDA)*
  - CJCSI 3170.01, *Joint Capabilities Integration and Development System (JCIDS)*
  - JCIDS Manual
  - DIAI 5000.002, *Intelligence Threat Support for Major Acquisition Programs*

Defense Acquisition University

Questions?

Milestone B to Full Operational Capability (FOC)

Requirements Management Activities

Date: June 8, 2015

Presented by:
Thomas Fritz

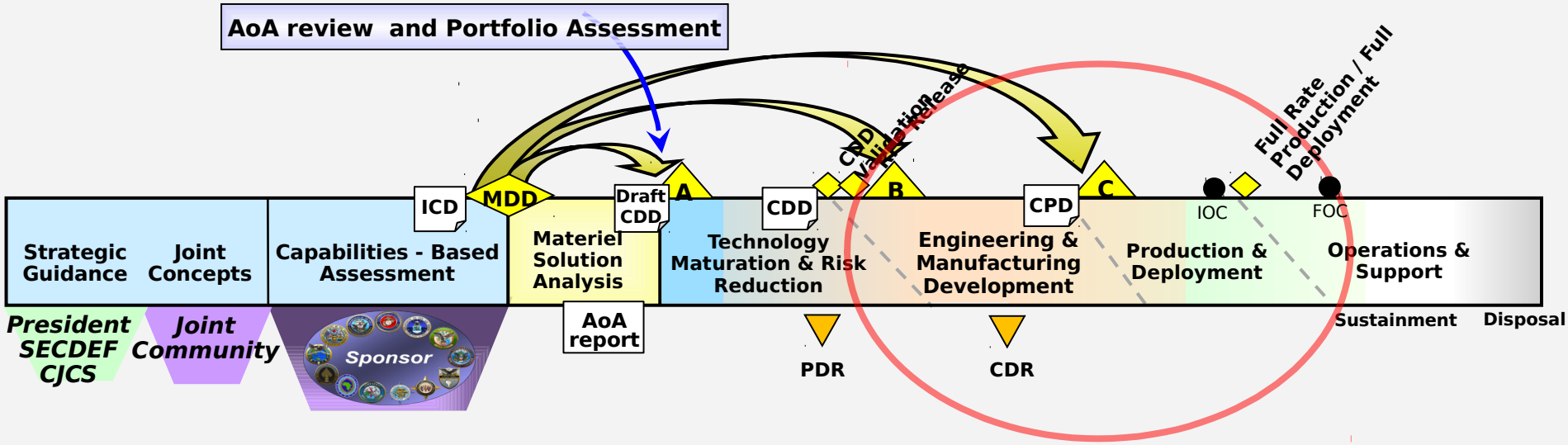
Lesson Objectives

Assess the major requirements management activities during the acquisition process from Milestone B to Full Rate Production / Full Deployment, Initial Operational Capability (IOC) and Full Operational Capability (FOC)

- **Explain the purpose and major activities of the Engineering and Manufacturing Development phase and the Production and Deployment phase**
- **Describe the role of the Requirements Manager (RM) to assure a successful Critical Design Review (CDR) and response to CDR Assessment(s)**
- **Describe role of the RM in preparing for Milestone C, the Full-Rate Production / Full Deployment Decision Review, and Sustainment**

Milestone B to FOC

EMD and Production & Deployment



High-Cost First Article Combined Milestone B and C Decisions. Some programs, notably spacecraft and ships, normally do not produce prototypes during EMD for use solely as test articles because of the very high cost of each article. The first articles produced will be tested and then fielded as operational assets. These programs may be tailored by measures such as combining the development and initial production investment commitments. When this is the case, a **combined Milestone B and C will** be conducted.

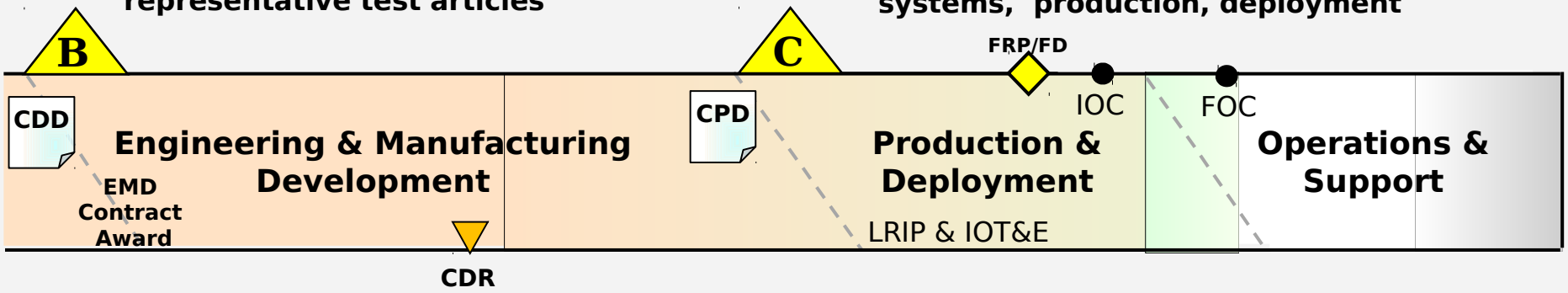
Milestone B to FOC
Requirements Management Activities

Purpose: Develop, build, and test to verify all operational & derived requirements were met.

Major Activities: T&E of production representative test articles

Purpose: Produce & deliver requirements compliance products

Major Activities: T&E of production systems, production, deployment



Requirements Management Activities

- **Develop:** CPD , Update to **CONOPS / OMS / MP**
- **Participate in**
  - IPTs and Technical Reviews
  - PDR (If pre - MS B PDR was waived)
  - Milestone & Decision Reviews; Configuration Steering Board
- **Monitor/provide input**
  - Test and Evaluation: DT/OA/OT, Live Fire, Interoperability
  - Updated: OMS/MP, SEP, TEMP, APB, AS, ISP, Cost

Critical Design Review (CDR)

- **CDR establishes the initial product baseline* to ensure that the system has a reasonable expectation of satisfying the requirements of the CDD within current cost and schedule constraints**
  - **Any changes during EMD are incorporated and after CDR the CDD evolves to the CPD required at Milestone C**
  - **CDR also approves the product baselines for maintainability, supportability, and logistics elements.**
- **After CDR, production-representative articles will be produced for testing against the KPPs and technical requirements**

Once the initial product baseline is established, opportunities to improve performance or reduce life-cycle costs are severely limited

*__Product Baseline__—describes the detailed design for production, fielding/ deployment, and operations and support. It prescribes all necessary physical (form, fit, and function) characteristics and selected functional characteristics designated for production acceptance testing and production test requirements. It is traceable to the system performance requirements contained in the CDD..

CDR Assessment

- **MDAP and MAIS programs require a CDR Assessment. For ACAT ID and IAM - PM invites Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)) to system-level CDRs and makes available CDR artifacts.**
  - **Office of the DASD(SE) prepares a brief assessment of the program's design maturity and technical risks that may require MDA's attention**
- **MDA :**
  - **Reviews Post-CDR assessment**
  - **Determines whether additional action is necessary**

RM CONCERN: What is the effect on the CPD if CDR trade-offs result in KPP Change? KSA Change? Increment Change?
CONOPS/OMS/MP Change?
- Proactive method? - Reactive method?

Test & Evaluation
Activities During EMD & LRIP

- **T&E during EMD:**
  - **Feedback to PM on progress of design process**
  - **Compliance with contract requirements (specs)**
  - **Ability of system to achieve KPPs and KSAs**
    - **Developmental Testing (DT)**
    - **Operational Assessments (OA)**
    - **Live Fire T&E (LFT&E) of components/subsystems**
    - **Interoperability testing of components/subsystems**
- **T&E during LRIP demonstrates that system is operationally effective, suitable, and mission capable**
  - **IOT&E**
  - **Full-Up System Level LFT&E**
  - **Interoperability testing and certification**

Milestone C

- **Program is reviewed by MDA for entrance into Production & Deployment, or Limited Deployment for software systems.**
- **Approval Criteria:**
  - **Satisfies EMD exit criteria approved at MS B**
  - **Updated & approved Acq Strategy**
  - **DT & OA results that demonstrate stable design that meets requirements**
  - **Mature software capability**
  - **No significant manufacturing risks**
  - **Validated CPD (or equivalent)**
  - **Demonstrated interoperability and supportability**
  - **Costs within affordability caps**
  - **Full FYDP funding**
- **Other MDA considerations: New threat(s) not in CPD? Requirements authority indicates capability requirements are current.**
- **MDA documents MS C decision in an ADM**

Low-Rate Initial Production (LRIP)

LRIP:

- **Establishes initial production base**
- **Provides IOT&E test articles**
- **Provides efficient ramp-up to full-rate production**
- **Maintains continuity in production pending IOT&E completion**

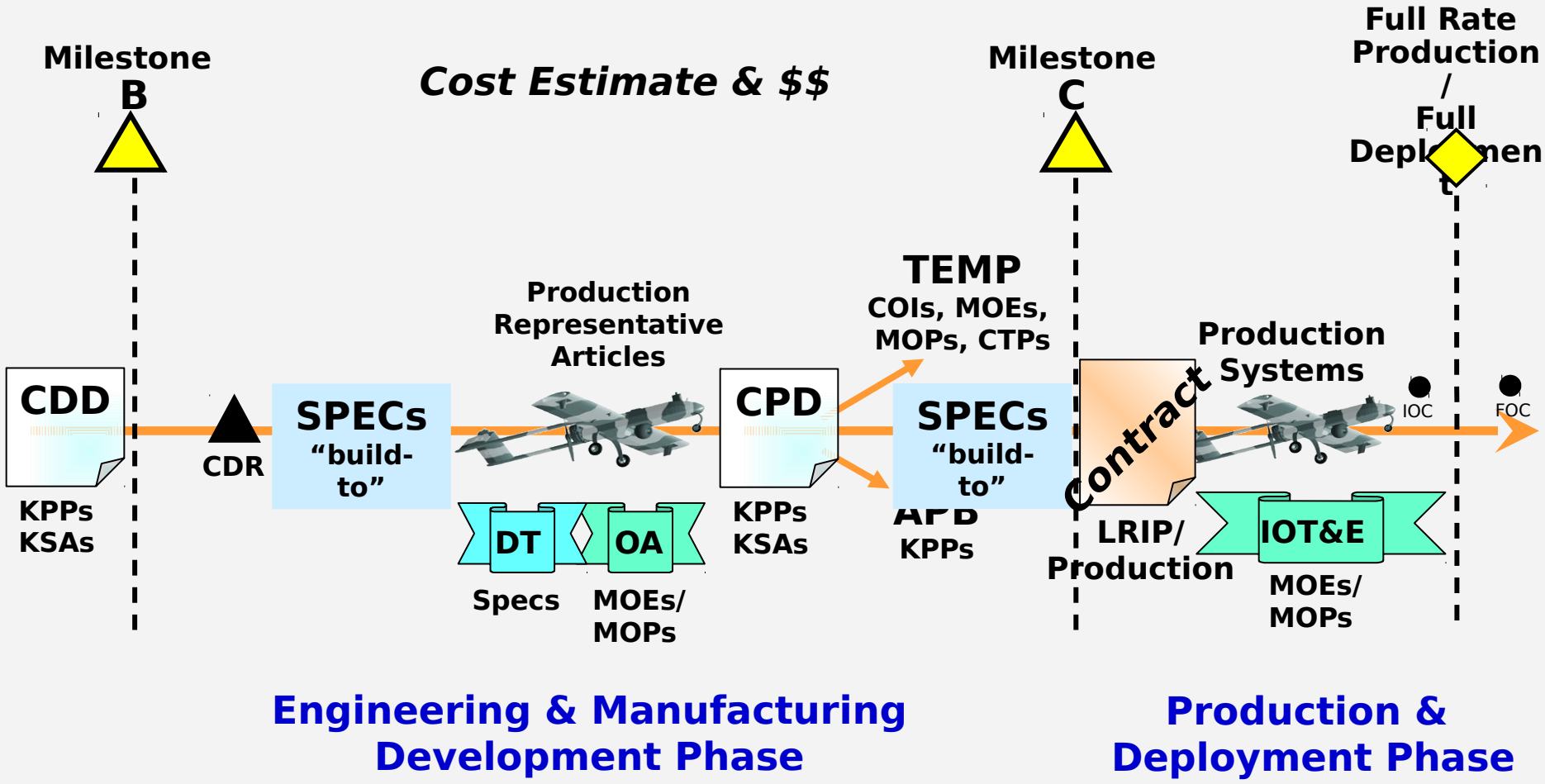
RM's High Interest Concerns:

Use as IOC systems?
Training base assets?

Full Rate Production / Full Deployment (FRP/FD) Decision Review

- Program reviewed by MDA to approve entry into Full Rate Production or Full Deployment
- Approval criteria:
  - Results of IOT&E
  - Demonstrated control of manufacturing process
  - Acceptable performance & reliability
  - Establishment of adequate sustainment & support systems
- Other MDA considerations:
  - Any new validated threat environment that may impact operational readiness
  - May consult with requirements validation authority to ensure capability requirements are current
- MDA documents decision in an ADM

Linkage: CPD, APB, TEMP & Contract for LRIP/Production



Resources

BBP 3.0	http://bbp.dau.mil	
NSS	http://www.whitehouse.gov/sites/default/files/docs/2015_national_security_strategy.pdf	
QDR	http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf	
Joint Electronic Library + JDEIS	CAC enabled https://jdeis.js.mil/jdeis/index.jsp	
JCIDS	CAC enabled https://intellipedia.intelink.gov/wiki/JCIDS	
DoD 5000.02	http://www.dtic.mil/whs/directives/corres/pdf/500002p.pdf	

Intelligence Supportability

Definition: Supportability refers to the *availability*, *suitability*, and *sufficiency* of intel support required by a capability.

- *Availability*: whether the intel data, information, infrastructure, or resources are, or are expected to be, available throughout the capability solution's projected life cycle.
- *Suitability:* whether the required intel data, information, infrastructure, or resources are, or are expected to be, appropriate to support the capability.
- *Sufficiency:* whether the intel data, information, infrastructure, or resources are, or are expected to be, adequate to support Sponsor's capability. Sufficiency may apply to quantitative as well as qualitative aspects of intel support.

Intelligence Supportability Categories

- **ICD, Threat Paragraph**. Ensure intelligence support requirements necessary to enable the concepts and CONOPS in the scope of the ICD are identified in terms of the broad intelligence supportability categories.
- **CDD and CPD, Intel Supportability Paragraph.** Identify and address support requirements, potential shortfalls, and efforts to satisfy shortfalls.
- **Categories:**
  1. Intel Manpower Support
  2. Intel Resource Support
  3. Intel Planning and Operations Support
  4. Targeting Support
  5. Intel Mission Data Support
  6. Warning Support
  7. Space Intel Support
  8. Counter Intel Support
  9. Intel Training Support

Certification for Intel Supportability

Purpose of J-2 Certification of intel supportability (ICD, CDD and CPD) during the staffing of validation process:

- Preclude fielding capabilities, systems, or programs that are unsupportable by the national and defense intelligence communities.
- Prevent scientific and technological surprise by ensuring Sponsors consider and incorporate the most current, applicable intelligence information, analysis, and findings into their capability development efforts.
- Ensure that national and defense intelligence architectures remain capable of, and agile enough, to support future warfighting by identifying and assessing possible intelligence support requirement shortfalls created by, or existing shortfalls aggravated by, programs and capabilities being reviewed.

Test and Evaluation and the Requirements Process

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Agenda

- Purpose of T&E
- TEMP
- T&E/ Requirements Collaboration
- T&E Update in Interim 5000.02 (Nov 13)
- T&E collaboration with Requirements Managers
- Backups

Purpose & Policy of Test & Evaluation (T&E)

- **Purpose**
  - **Help Reduce Risk**
  - **Provide Information to Decision Makers**

- **Policy per Interim DoDI 5000.02**
  - The fundamental purpose of test and evaluation (T&E) is to enable the DoD to acquire systems that work.
  - T&E provides engineers and decision makers with knowledge to assist in managing risks, to measure technical progress, and to characterize operational effectiveness, suitability, and survivability.

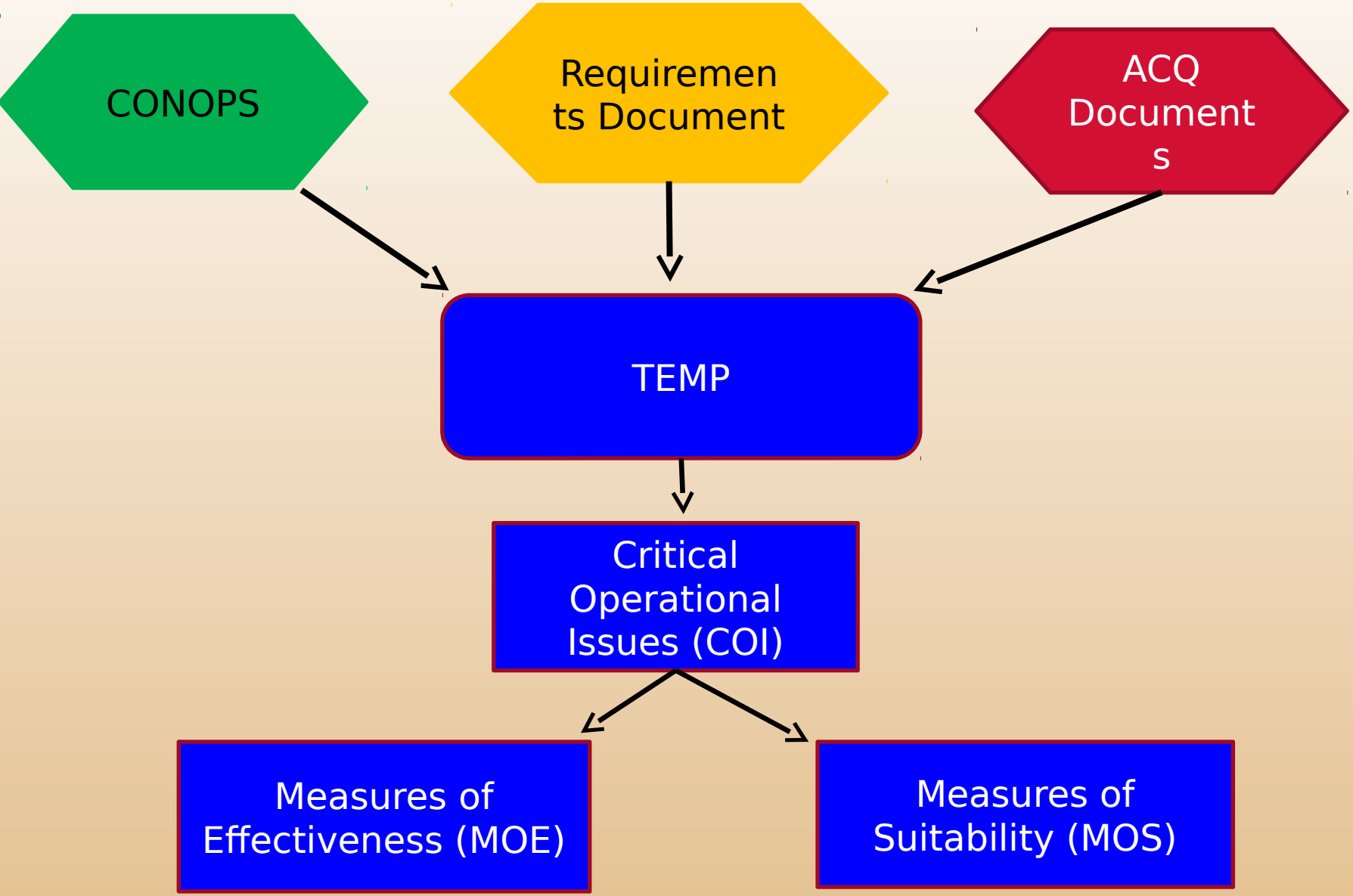
T&E information helps determine whether systems are operationally effective, suitable, and survivable for intended use.

Test and Evaluation Master Plan (TEMP)

- **Describes total T&E planning from development through operational T&E into production and fielding**
- **Identifies the required type and amount of T&E events, along with their resource requirements**
- **Program Manager, along with T&E WIPT, is responsible for producing**
- **Considered a contract between PM, OSD, and T&E Activities**
- **Must be consistent with other key acquisition documents**
- **For MDAPs, must be approved by DASD(DT&E) & DOT&E**

Provides the roadmap for evaluations, integrated test plans, and resource requirements to successfully accomplish the T&E program objectives

TEMP Development



Mission Oriented Testing

- More robust and mission related testing is during DT:
  - Better chance of successfully executing OT
  - Better operational knowledge about the system, earlier in the program
- System must be evaluated within the context of the system of systems they will operate
  - Requirements documents do not normally address systems out of their program of record
- Operational testing is about Mission accomplishment
  - Individual systems do not have missions
  - Units equipped with a system have missions
- End-to-end testing assesses system's impact on mission accomplishment

Mission Oriented Metrics

- Typically, most system requirements are mostly technical in nature
  - While important, technically expressed requirements do not adequately capture actual mission of the systems
- KPPs should:
  - Provide a measure of mission accomplishment
  - Lend themselves to good test design
  - Capture reasons for procuring a system
- Suggested metrics for KPPs should:
  - Should be quantitative and mission oriented
  - Lend themselves to efficient test design
  - Encapsulate the reason for procuring the system
  - Accurately represent the desired operational performance of the system

Leveraging T&E Knowledge in Developing Requirements

- T&E community has knowledge of legacy system performance and capabilities
  - Help ID unrealistic, unaffordable, and untestable requirements
  - Knowledge of current threat and test infrastructure can help understand needed test resources
- Testers have experience with difficulty and cost associated with testing to certain metrics
  - Probability metrics expensive to test
  - Continuous metrics that relate to probability requirements can reduce test resources
- Need to understand the “So What” factor
  - Early involvement between testers and requirements personnel increases understanding

DoDI 5000.02 (1/7/15) Changes-

- **T&E planning moved to left**
- **Prior to completion of Material Solutions Analysis Phase, Combat Developer will provide a CONOPs/OMS/MP to PM. It will be provided to Industry as as an attachment to next Acquisition phase RFP (pg17)**
- **Chief Developmental Tester for MDAPs and MAISs (pg 91)**
- **Lead DT&E (Government) Organization for MDAPs (pg 91)**
- **DT&E activities will start when requirements are being developed to ensure key technical requirements are measureable, testable, and achievable (pg 92)**
- **TEMP will be a source document when developing the request for proposal (pg 93)**
- **All programs will plan for the conduct of DT&E and /or Integrated Testing (pg 94)**
- **Reliability Growth Curve(s) included in the MS B TEMP (updated in all future TEMPS) (pg 94)**
  - **Beginning at MS B, the TEMP will include T&E for reliability growth and reliability growth curves for the whole system and the reliability of critical systems, sub-systems, components, and sub-components (pg 103)**
  - **For software (in any system) reliability growth will be measured by software maturity at regular intervals (pg 103)**

DoDI 5000.02 (1/7/15) Changes- (cont.)

- Requires the use of Government T&E capabilities, unless an exception can be justified (pg 95)
- For accelerated acquisition and urgent programs, levels of developmental testing required will be highly tailored to emphasize schedule over other considerations (pg 96)
- For programs on oversight, DASD(DT&E) will provide MDA with a program assessment at Developmental RFP release Decision Point, MS B/C, & OTRR (pg 96)
- Unless specifically waived, the test-related documentation that is required for MDAP programs will be required for all programs on the DOT&E Oversight List (pg 99)
- Force protection equipment will be subject to DOT&E oversight, as determined by DOT&E. DOT&E will approve required LFTPs and/or LF strategies for such systems (pg 99)
- The lead OTA for the program will provide an assessment of the the T&E implications of the initial concept of operations provided by the user as soon as practical after the MDD (pg 101)
- Beginning at MS A, lead OTA will provide an active link in the TEMP to a living document in which the Component's rationale for the requirements in the Draft CDD or equivalent requirements document (pg 101)
- Requirements for early use of Operational Assessment in support of Acquisition Decision Points (pg 102)
- An up to date TEMP will be provided prior to release of RFP for MS B/C (pg 103)
- New section on Software Testing (pg 104-105)
  - Use of Operational Assessments (OA) for Incrementally Deployed Software Intensive Program model ; all limited deployments require OT or OA (pg 105)
  - Includes Human-Systems Interface (HIS) assessment and realistic test environment (pg 104)
  - OTA requires DOT&E coordination on the required level of test at all levels of risk (pg 104)

DoDI 5000.02 (1/17/15) Changes- (cont.)

- Added discussion of use of Scientific Test and Analysis Techniques throughout T&E Program Planning(pg 101)
- Revised Modeling and Simulation (M&S) discussion (pg 103)
  - Require any M&S that utilize or portray threat characteristics or parameters must have that portrayal accredited by the Defense Intelligence Agency
  - For programs under DOT&E oversight, its use for the operational evaluation will be approved by DOT&E
- Clarified Integrated Testing (pg 107)
  - DOT&E must approve OTAs plan for use of integrated testing data before the start of testing; approval will be based on understanding of the realism of the test scenario(s) used and the pedigree (test conditions and methodologies) of the data
- Added discussion that cybersecurity testing applies to all systems, not just software systems (pg 105) (while this was original intent, previous organization made this unclear)
  - PM and OTA conduct periodic risk assessments to determine appropriate testing (pg 105)

Requirements Managers Role in T&E Activities

- Participate in T&E WIPT at Pentagon level and T&E IPT at PM level
- Ensure KPPs, KSAs and Other Performance Attributes are Measurable and Testable
- Ensure COE/COO are realistic and current
- Ensure Operational Mode Summary/Mission Profiles are current and realistic
- Review Critical Operational Issues (COI) for the TEMP
- Monitor DT&E/OT&E/LFT&E and Interoperability test Activities; Obtain Test Reports – Review CDD/CPD Against Test Results

T&E Backups

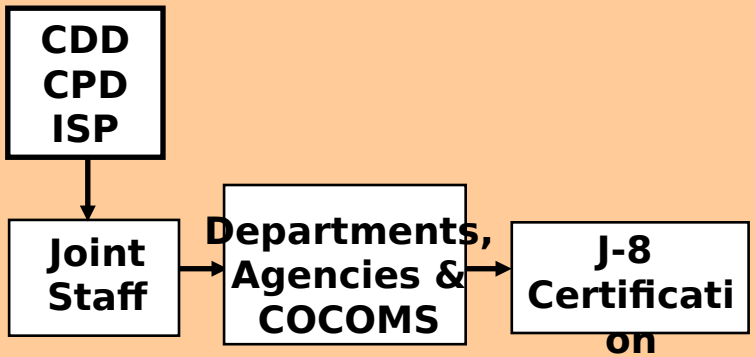
Interoperability Certification

IT and NSS employed by U.S. Forces shall, where required (based on capability context), interoperate with existing and planned, systems and equipment, of joint, combined and coalition forces and with other U.S. Government Departments and Agencies, as appropriate.

DoD Directive 4630.08

Document Certification

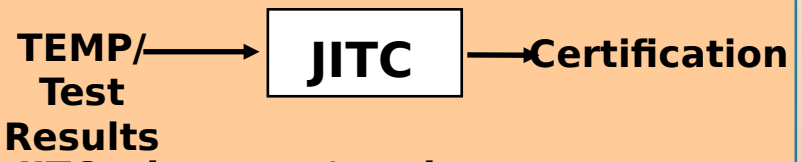
J-8 Interoperability & Supportability Certification



(document staffing in KM/DS)

System Test & Certification

Joint Interoperability Test Command (JITC) Certification



- JITC witnesses/conducts interoperability tests, and
- Provides Joint Interoperability Test Certification. Valid for 4 years or until changes occur that affect interoperability of the certified capability

Certification verifies compliance with the Net-Ready KPP

Types of Test and Evaluation

- **Developmental Testing**
  - Any engineering-type test designed to mature a system's design and measure its technical progress
  - Assist Program Manager in system development
  - At OSD, responsibility of Deputy Assistant Secretary of Defense (Developmental Test and Evaluation)
- **Operational Testing**
  - Consider Operational effectiveness as the "overall degree of mission success of a properly trained and manned unit equipped with a system when employed in the operationally realistic environment planned for its use."
  - Determines Operational Effectiveness, Operational Suitability, and Operational Survivability
  - Responsibi[illegible]Test and

DT is to LEARN, OT is to CONFIRM

Examples of DT&E

- Temperature/Vibration/Shock
- Humidity/Water Intrusion
- Stress/Loads/Durability/Fatigue
- Rough Terrain
- Power Generation/Frequency Distribution
- Weapon Accuracy
- Flying Qualities & Performance
- Radar Cross-Section

Follow-On Operational Test & Evaluation (FOT&E)

OT&E AFTER FRPDR

- OBJECTIVES
  - VERIFY SYSTEM CONTINUES TO MEET OPERATIONAL REQUIREMENTS
  - EVALUATE LIMITATIONS / CORRECTED DEFICIENCIES
  - EVALUATE MODs AND UPGRADES
  - DEVELOP TACTICS & DOCTRINE
  - TRAIN OPERATORS & MAINTAINERS
- CONTINUED THROUGHOUT LIFE CYCLE

OSD's T&E Oversight List

- Published jointly by DOT&E and DASD (DT&E)* - Updated Annually
- Identifies Acquisition Programs Whose T&E Efforts Will Receive OSD Oversight:
  - Includes ACAT I (MDAP and pre-MDAP), ACAT IAM (MAIS and pre-MAIS), ACAT II, Live Fire T&E programs, some ACAT III, and
    - Programs designated by OSD based upon Congressional interest
    - Programs designated by OSD due to need for multi-service T&E
    - Small programs designated by OSD because they are closely related to an MDAP

DOT&E can place any program it deems necessary on T&E oversight

*DASD (DT&E) is an element of ASD R&E

OT&E REPORTS
(Oversight List)

- DOT&E Report on Initial Operational Test and Evaluation (10 USC §2399)
  - Submitted by DOT&E to SecDef and Congress
  - Assesses adequacy of OT&E and Confirmation of Operational Effectiveness and Suitability
- Annual OT&E Report (10 USC §139)
  - Submitted by DOT&E Concurrently to: SecDef, USD(AT&L) and Congress NLT 10 days after transmission of President's Budget
  - Summarize all Operational and Live Fire T&E
- Joint Interoperability Certification Report
  - Submitted by JITC to J-6 annually listing C4I systems certified fully and partially interoperable
  - Provided to comply with requirements of CJCSI 6212.01E

Certification of Readiness For IOT&E
(DoDI 5000.02)

For Programs on the OSD T&E Oversight List, Components Must Establish an Operational Test Readiness Process That considers:

- DT&E results
- Progress against critical technical parameters documented in the TEMP
- Analysis of technical risks to verify those risks were retired during Developmental Testing
- IOT&E entrance criteria specified in the TEMP

DASD (DT&E) conducts an independent Assessment of Operational Test Readiness (AOTR) for all ACAT ID and special interest programs designated by the USD(AT&L)

Initial Operational Test & Evaluation (IOT&E)

- OT&E Completed Before Full-Rate Production Decision Review (FRPDR)
- Legal Requirement (ACAT I & II)
  - Report to Congress before FRPDR decision (Beyond LRIP report submitted by DOT&E for ACAT I)
    - Operationally realistic “combat” environment
  - Typical users to operate and maintain system during test
  - No contractor involvement (unless contractor will accompany system into combat)
  - Use production representative assets (LRIP quantity designated by DOT&E)
  - Use threat/threat representation forces, targets, and threat countermeasures
- IOT&E Test Plan Must be Approved by DOT&E Before IOT&E Can Start For Any Program On OSD T&E Oversight

Live Fire T&E (ACAT I & II)

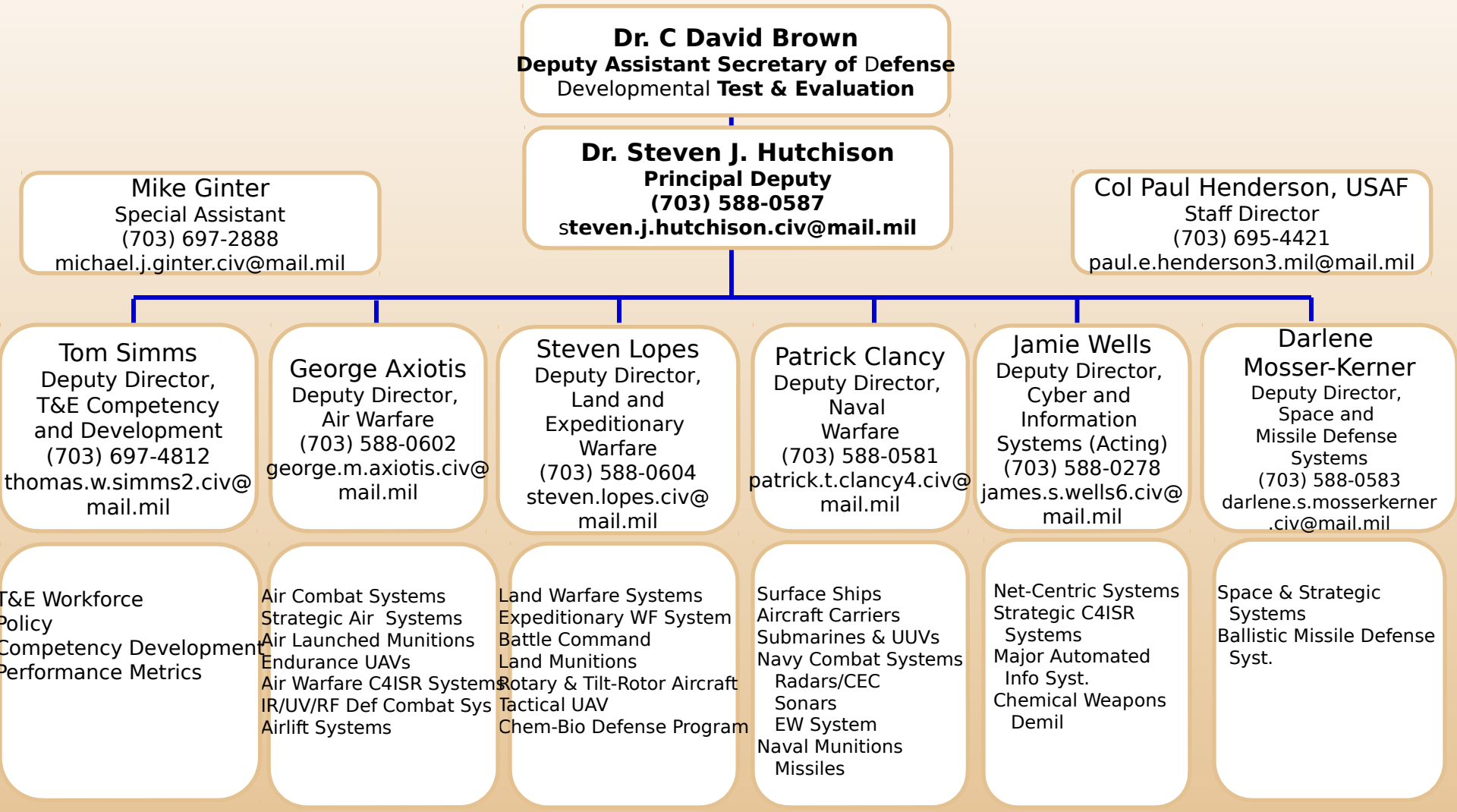
- Determine Lethality and Survivability for “Covered” Systems Under Realistic Combat Conditions Against Actual Threats (Title 10 USC § 2366)
  - ACAT I or II programs that include features designed to provide protection to the crew
  - Conventional munitions or missile program; ACAT I or II, or > 1M rounds
  - A modification to a covered system that is likely to affect significantly the survivability or lethality of such a system

- Correct Design Deficiencies and Assess Battle Damage Repair Capabilities and Issues Before Full Rate Production
- Per NDAA 2007, All Force Protection Equipment Must Conduct Survivability Testing
- Responsibility of Director, Operational Test and Evaluation

LFT&E Waivers

- If Full-Up System-Level LFT&E is Both "Unreasonably Expensive and Not Practical," under Title 10 USC a Waiver Can Be approved by SECDEF (SAE for ACAT II) Prior to MS B. After MS B, Requires Legislative Relief From Congress
- If Waiver Approved, Requirement to Accomplish Other Than Full-Up System-Level LFT&E Remains; Must Be Service Planned/ Budgeted, and Approved by DOT&E

DASD(DT&E)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Performance Metrics
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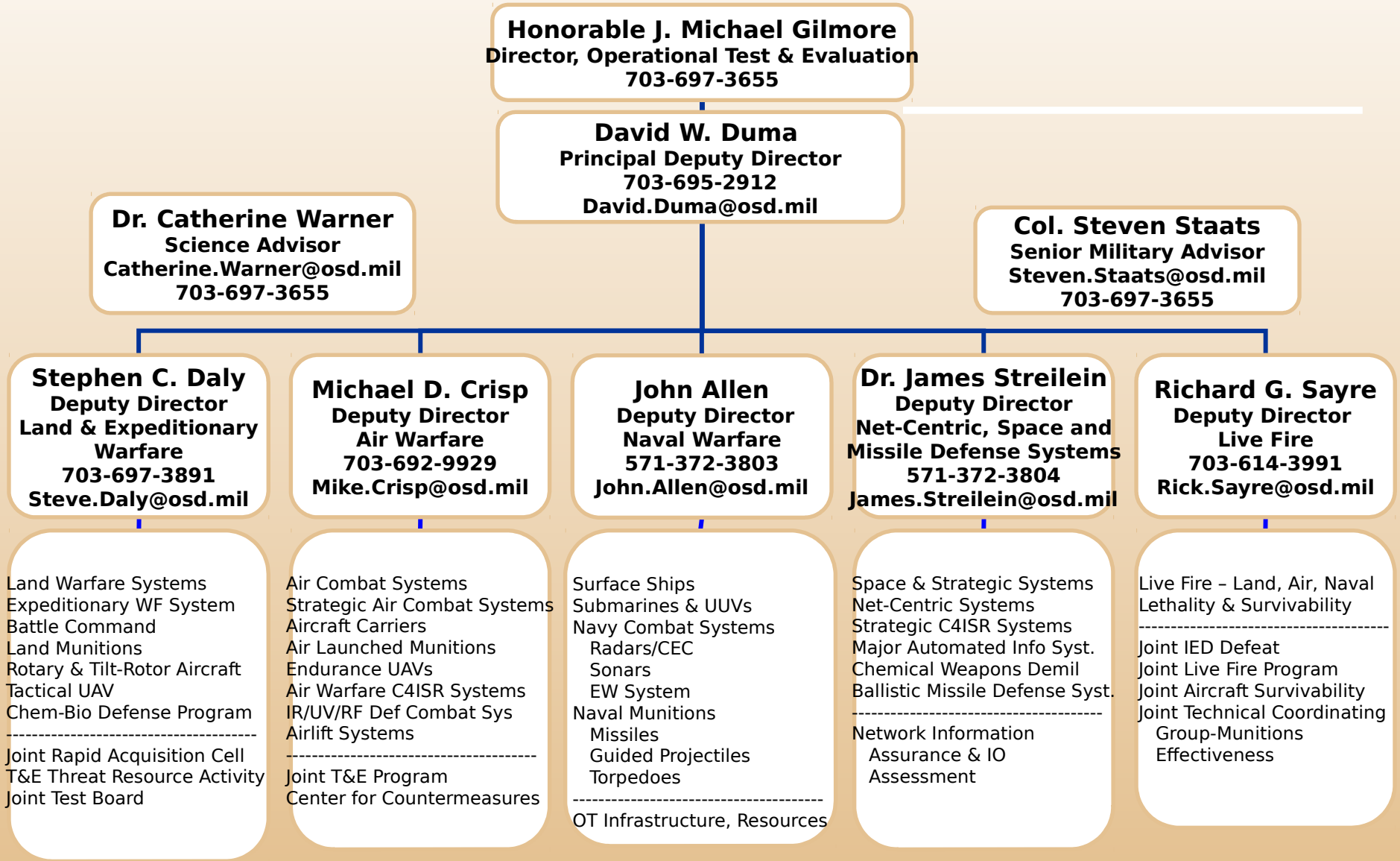
Strategic Air Systems
Air Launched Munitions
Endurance UAVs
Air Warfare C4ISR Systems
IR/UV/RF Def Combat Sys
Airlift Systems
Land Warfare Systems
Expeditionary WF System
Battle Command
Land Munitions
Rotary & Tilt-Rotor Aircraft
Tactical UAV
Chem-Bio Defense Program
Surface Ships
Aircraft Carriers
Submarines & UUVs
Navy Combat Systems
Radars/CEC
Sonars
EW System
Naval Munitions
Missiles
Net-Centric Systems
Strategic C4ISR Systems
Major Automated Info Syst.
Chemical Weapons Demil
Space & Strategic Systems
Ballistic Missile Defense Syst.

DOT&E Organization



Defense Acquisition University

RQM 310

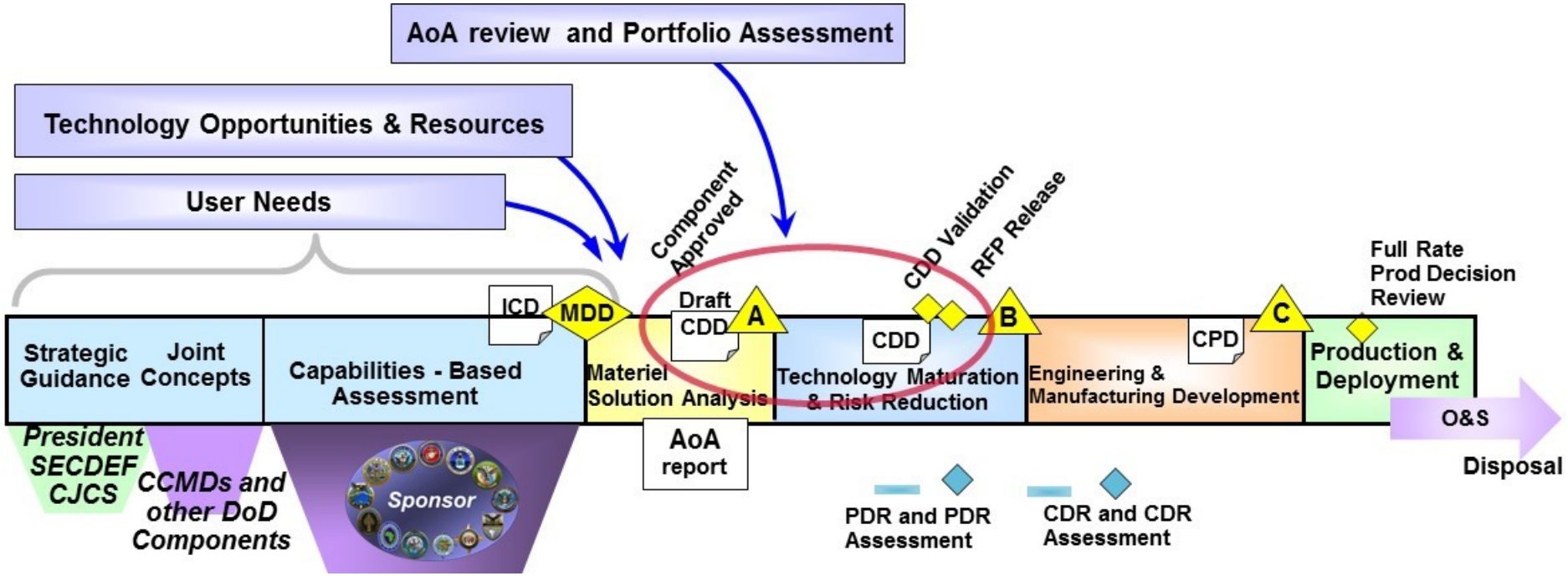
Developing Requirements CDDs

Lesson Objectives

- Explain the elements of a CDD
  - Explore the linkages between ICD, CDD and CPD
  - Given CDD data, critique KPPs for clarity

ICD – Initial Capabilities Document
CDD – Capability Development Document
CDP – Capability Production Document
KPP – Key Performance Parameter

CDD in Timeline



Document Centric View

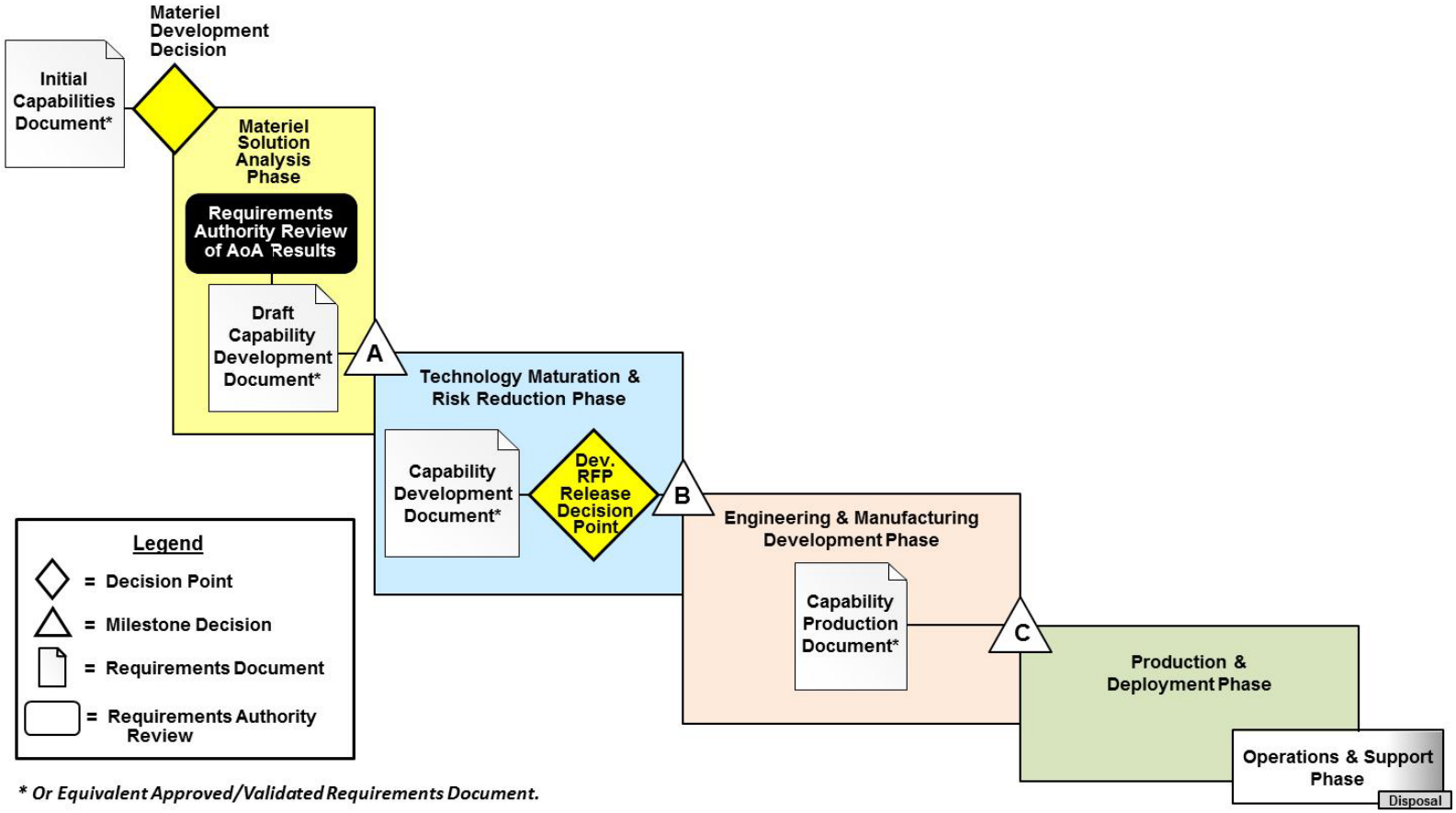


Figure A-4. JCIDS and DAS Touch Points (Deliberate Process)

Capability Development Document (CDD)

The CDD:

- Is sponsor's primary means of proposing capability solutions to satisfy validated capability requirements and close capability gaps identified in the ICD

- **Describes one or more technologically mature and affordable increments of a militarily useful capability that has been demonstrated in an operationally relevant environment.**

- Defines authoritative, measurable, and testable parameters across one or more increments of a materiel acquisition by
  - Setting KPPs and KSAs necessary for acquisition community to design and propose systems
  - Establishing performance in programmatic baselines

CDD

- Validated CDD is required for the Pre-EMD Review and MS B decision
  - A Draft CDD is required to support the TMRR phase
  - Validated CDD will support subsequent CPD
  - CDD may be revalidated for MS C decision if CDD accurately reflects the performance of the system to be delivered at LRIP
  - Approval at Pre-EMD Review supports RFP release for EMD Phase
    - **Now Developmental RFP Release**

- CDD addresses a single system or System of Systems
  - Each system in a FOS will have its own CDD

TMRR – Technology Maturation & Risk Reduction
LRIP – Low-Rate Initial Production
RFP – Request For Proposal(s)

CDD

- CDD is not submitted for staffing until AoA is complete
  - CDD must clearly articulate if each increment has unique KPPs/KSAs or if KPPs/KSAs apply to all increments
- CDD will be updated:
  - Changes to KPPs are made after validation or changes CONOPs
  - Before each increment if CDD describes more than one capability increment
- CDD is not a required successor document following an IS ICD (May be an RDP or CD)
- A CDD with significant IS component may permit alternate document formats and delegated approval authority described with IS ICD

AoA – Analysis of Alternatives
IS CD – Information Systems ICD
RDP – Requirements Development Package
CD – Capability Drop

Elements of a CDD

- CDDs - NTE 45 pages w / 16 sections & 4 appendices
  - Executive Summary NTE 2 pages
- CDD includes citation to ICD or other source documents
  - Operating environment – how and where on the battlefield
  - CONOPs – UCP-assigned mission / Joint Concepts
  - Threats
- KPP / KSA table is similar to ICD Capability Gap Table
  - Tier 1&2 JCAs PLUS Threshold / Objective KPP / KSA values

CONOPS – Concept of Operations
UCP – Unified Command Plan
JCA – Joint Capability Area

Elements of a CDD

- Capability – CDD – CPD Table – provides linkages between documents and Tier 1 / 2 JCAs
- Technology Readiness Assessment should support IOC / FOC dates
- DOTmLPF-P considerations must be addressed

Affordability = RDT&E + procurement costs (this includes operations and sustainment)

IOC – Initial Operational Capability
FOC – Full Operational Capability
DOTmLPF-P – Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy

CDD

- The CDD addresses a single system or SoS only, although it may refer to any related systems needed in an FoS or an SoS approach necessary to provide the required capability. When the selected materiel approach consists of an FoS, each individual system will have its own CDD. An SoS will normally be treated as if it were a single system using a single CDD to describe highly interdependent systems that provide the capability using an SoS

SoS – Systems of Systems
FoS – Family of Systems

Documents/Events that Guide Development of the CDD

Predecessor Documents and Information

- JOpsC and CONOPS
- ICDs
- Technology Development Strategy
- System Threat Assessment
- AoA Report
- DOD Enterprise Architecture and solution architecture
- Complete Automated Standards Profile as Required in references
- MUAs/final demonstration report for JCTD and qualified prototype project

JOpsC – Joint Operations Concepts
CONOPS – Concept of Operations
JCTD – Joint Capability technology Demonstrations

Documents/Events that Guide Development of the CDD

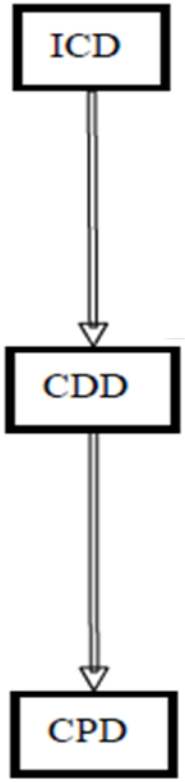
Dependent Documents

- APB for Milestone B of the Current Increment
- Acquisition Strategy Update
- Cost Analysis Requirements Description
- Test and Evaluation Master Plan Update
- DD Form 1494 (Required to Obtain Spectrum Certification)

- ISP
- System Engineering Plan
- Manpower Estimate
- CPD

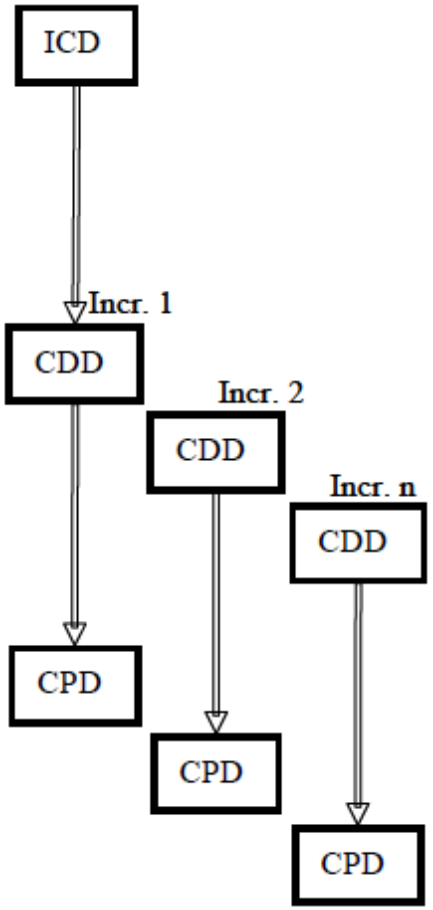
APB – Acquisition Program Baseline
DD Form 1494 -- Application For Equipment Frequency Allocation
ISP – Information Support Plan

Basic Process



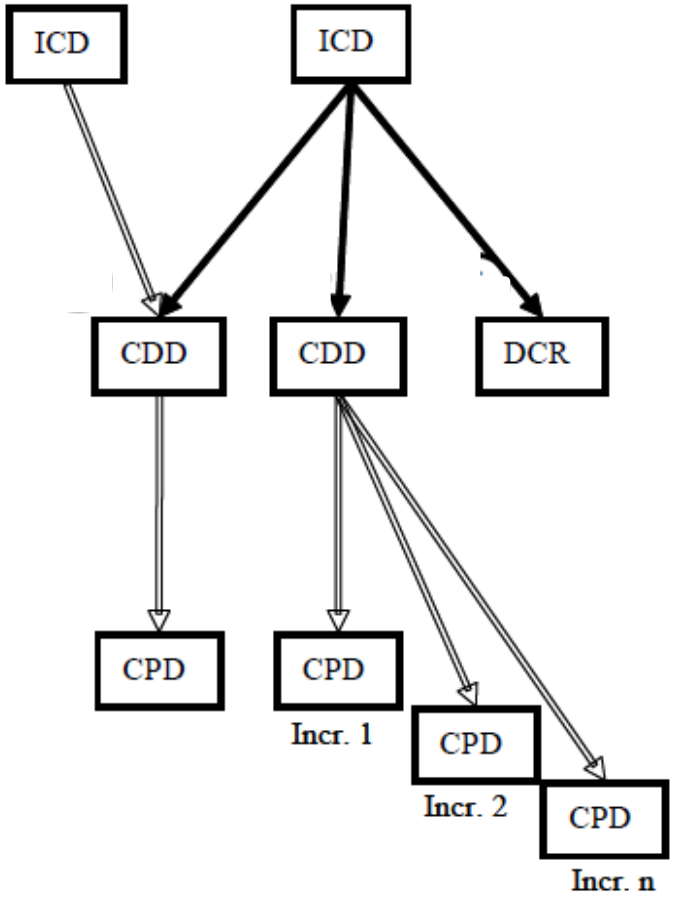
- **Basic ICD-CDD-CPD flow**
  - **Only one increment of development and production**

Incremental (Block) Upgrades



- **Incremental Upgrade Strategy**
  - **One ICD**
  - **Multiple development efforts (blocks of development)**
  - **Each block has a CDD and CPD**

Multiple ICDs/CDDs



- **Multiple ICDs supporting a single CDD**
- **Single ICD supporting multiple CDDs/DCRs**
- **Single CDD supporting multiple increments (lots) of production**
  - **Each increment requires no dedicated development effort**

TEAM KPP Exercise
Joint Light Tactical Vehicle v3.6

Be prepared to discuss :

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**

ALL: Read the Executive Summary. (pp 2-3) , assess page length, assess section 6 including a count of KPPs and KSAs

Group 1: Force Protection and System Survivability (page 15, 51 and JCIDS Manual D-A-2)

Group 2: Net Ready – Emphasis on looking at GAPS, 3 attributes in JCIDS Manual g to procedure described in Manual (page 16, 51 and Appendix A, JCIDS Manual D-A-3)

Group 3: Energy – including Fuel Efficiency KSA (page 17,22, 51, JCIDS Manual D-A-3)

Group 4: Materiel Availability, Operational Availability, Reliability and Operating and Support Cost (page 16, 17, 21-23, 51,53, JCIDS Manual D-A-3)

Group 5: Transportability (page 18-19, 24-27, 52, 55, JCIDS Man D-A-19)

JLTV KPP

Force Protection (Group 1)

(page 15, 51 and JCIDS Manual D-A-2)

- **Force Protection:** The JL TV shall provide essential protection to mounted personnel. The JL TV shall have scalable protection …. See the … Classified …Appendix F for definition of the Threshold and Objective values …
- **Critical Technologies:** Crew Structure and Ceramic Armor both at

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

System Survivability (Group 1)

(page 15, 51 and JCIDS Manual D-A-2)

- **Survivability:** The JLTV FoV (at GVW) should provide a crashworthy vehicle structure capable of maintaining structural integrity in a rollover … capable of supporting 100%(T) 150% (O)…
- **Critical Technologies:** Crew Structure and Ceramic Armor both at TRL 6

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Net Ready (Group 2)

(page 16, 51 and Appendix A, JCID Manual D-A-3)

- Page 16 “Refer to Appendix A, Architecture Products.”
  - Appendix A: “Net-Ready KPP Compliance Statement” and 93 more pages
- GAPS 1 – 5: All include dependency on “Network”
- Could you find?
  - Support Military Operations.
  - Entered and Be Managed On the Network
  - Effective Information Exchanges

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Energy (Group 3)

(page 17,22, 51, JCIDS Manual D-A-3)

"Energy Efficiency is covered as a Key System Attribute. Assigning Efficiency System Attribute. ….

6.2.6 Fuel Efficiency KSA: JL TV should achieve 10 (T), 15 (O) payload ton-mpg at GVW over representative OMS/MP terrain; and shall have a maximum of a 1.6 (T), 1.0 (O) gal / hour idle fuel consumption rate while providing 10 kW total of power to on-board systems

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Sustainment. **(Group 4)**

(page 16, 17, 21-23, 51,53, JCIDS Manual D-A-3)

Sustainment Materiel Availability: JLTV FoV (vehicle only) shall have a Materiel Availability (Am) of 80% (T), 85%(O).

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Sustainment. **(Group 4)**

(page 16, 17, 21-23, 51,53, JCIDS Manual D-A-3)

Sustainment Operational Availability: JLTV FoV (vehicle only) shall have an operational availability (Ao) of 95%(T), 98%(O).

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Sustainment. **(Group 4)**

(page 16, 17, 21-23, 51,53, JCIDS Manual D-A-3)

Sustainment Reliability KSA: … (T) 90% probability of completing its 250 mile mission…. MMBOMF of 2400 and does not include mission equipment or GFE. (O)… 11700 MMBOMF … does not include….

O&S Cost KSA: Table 6-2 (in Billions)

- **Clarity, measurability, testability, ect,**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPP

Transportability: (Group 5)

(page 18-19, 24-27, 52, 55, JCIDS Manual D-A-19)

- The JL TV FoV shall be transportable worldwide by air and sea modes to support strategic deployment and operational maneuver in accordance with service concepts and programs.
- **6.1.2.1 Rotary Wing**. Table 6.1 defines thresholds and objectives for rotary wing transportability.
- **6.1.2.2 Sealift**. Transport by sea is an essential part of force deployment and a hallmark aspect of USMC Expeditionary capabilities. The USMC JLTV (CTV variants and the CSV Utility) shall be capable of being loaded into all deck spaces of the repositioning and amphibious ships force projection naval ships where current HMMWVs are loaded, including height restricted deck spaces of the MPF Maritime PrePositioning Squadron (MPS) and amphibious class ships (T=O)

- **Clarity (PCA surability, testability, etc**
- **What other KPP could impact your KPP and why**
- **Top reason you might Re-write your KPP**
- **KPP(s) is affected by Technology Readiness Assessment**
- **EX Sum, page length, Section 6 overall, count of KPPs and KSAs, attributes**

JLTV KPPs, KSAs, and Attributes

- System Training
- Force Protection
- Survivability
- Net-ready
- Energy Efficiency
- Sustainment Materiel Availability
- Sustainment Operational Availability
- Sustainment Reliability
- Mobility KPP
- Transportability KPP
- Payload KPP

- Ownership Cost KSA
- Reliability KSA
- Fuel Efficiency KSA
- Unit cost KSA

- Cross Country Performance
- Traffic ability
- Forward Speed
- Operational Range
- Speed on Grade
- Fixed Wing transport
- Rotary Wing
- Sealift transport
- Landing Craft and Lighterage transport
- Rail transport
- Overland Ground Transport
- Low Velocity Aerial Delivery
- Occupants
- Self Sustainment Payload
- Defensive Measures
- Operate in CBRN environment
- Recover from CBRN
- Recovery Measures
- Recover from Kinetic
- Maintenance ratio
- MTTR
- Commonality
- Fuel Usage
- On board Power Generation
- Silent Watch
- Exportable Power

$11(8) + 4(3) + 95 = 110$